Gleanings in Bee Culture

Established 1873

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NOVEMBER, 1937

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5 lb. pails.....	3.25	6.50	31.00
10 lb. pails.....	4.85	9.65	47.50

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50	5-gal. cans	14.00

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The Monthly Honey Market

U. S. GOVERNMENT REPORT

Information from Producing Areas (first half of September).

California Points: Southern California—Weather conditions have been somewhat unsettled, with temperatures ranging above normal. Considerable cloudiness and fog have prevailed along the coastline. Brood-rearing is about over. Though many colonies appear light in brood they generally are in better shape than a year ago and have more honey, with pollen still coming in. No nectar is now available except from occasional plants of broomweed and goldenrod. Honey has been in good demand at firm to slightly higher prices. Buyers now seem ready to purchase in larger volume than earlier in the season. Sales by beekeepers in ton lots or more, f.o.b. Southern California delivery points reported per lb. as follows: Orange, Extra White to Water White 6⅜-6⅝c, occasional lot up to 7c; White 5⅞-6⅛c; Sage, Extra White to Water White 5½-6¼c, White 5-5¼c; Buckwheat-Sage, Light Amber to Extra Light Amber 4½-5c. Beeswax is stronger, with prevailing offers ranging 22-23c per lb. delivered Los Angeles, and with an occasional lot of fancy capping wax moving at 23½c per lb.

Imperial Valley—The quality of this year's crop of both Alfalfa and Cotton honey is reported good. Offers have been light and only a few sales of Light Amber to Extra Light Amber Alfalfa reported at $5.40-5.60 per case of 120 pounds.

Central California—The weather was warm at the start but cooler toward the close, with thunder storms reported, especially in the upper portion of the area. The recent honey flow from spikeweed and blue curl has been barely enough to keep bees flying. It is feared that colony strength may often be below normal. The sale of honey has been rather light, with most dealers having sufficient on hand for current needs. Although beekeepers are reported to be offering honey freely, generally they have been unwilling to sell at current prices. The market appears to have a firmer tone and now that most of the distress lots have been sold beekeepers are generally holding for higher prices. Sales by beekeepers in ton lots or more, f.o.b. Central California delivery points, reported per lb. as follows: Light Amber Cotton-Alfalfa-Bean and Mixed Flowers 4¼-4½c; few higher; Light Amber to Extra Light Amber Buckwheat-Sage 4½-4¾c; f.o.b. shipping point, 2 cars White Cotton 5c.

Northern California—Rainfall at the close will be helpful for next year's honey plants. Bees are working to a limited extent on star thistle, spikeweed and tarweed. Several fairly large lots of honey sold, at prices showing little change, but many beekeepers are holding for higher prices. Sales by beekeepers reported, per lb., as follows, f.o.b. Northern California delivery points: Thistle, Extra Light Amber to White 4½-5c, some 5¼c; Light Amber and Extra Light Amber Mixed Flowers 4c; Light Amber Manzanita 4c; Light Amber Alfalfa 4c.

Beeswax has moved in light volume, on a steady market. Good Yellow wax has brought beekeepers 22-23c per lb. f.o.b. Central and Northern California points.

Pacific Northwest: West of Cascades—Temperatures have ranged slightly lower, but frost has occurred only in the higher altitudes and bees are still working on alfalfa, wild buckwheat, wild aster and red clover. Rainfall has been light. Colonies are in good condition except where depleted by spray poisoning. The previous abundant rainfall started the growth of annuals in profusion; and madrone and manzanita have a heavy setting of buds for next year. Demand for local honey has been light on the part of bottlers and other buyers but on good quality honey prices are slightly higher with the market stiffening. Only few lots of fireweed honey have moved during this period, with sales reported, Water White 7-8c per lb., small pails 10 1/5c per lb. Beekeepers are receiving 23c per lb. for beeswax delivered Portland.

East of Cascades—One or two light frosts have occurred. With extracting practically over, disappointment is expressed over the size of the honey yield. Bees in Yakima Valley secured around 30 pounds to the colony, of honey that is darker than that of last year, and in the Umatilla Valley some beekeepers did not average over 15 pounds,—the lightest crop in many years. Many colonies are reported weak in numbers and light in stores. Although rabbit brush is furnishing a little nectar, wild buckwheat has been killed by the frost. The market is strong and beekeepers are generally holding for higher prices. Few sales reported White Sweet Clover-Alfalfa 6-6½c. Extra Light Amber, ton lot 6¼c, few 60's 8c, small pails 9¼c per lb. Beeswax, 25c per lb.

Intermountain Region: Extracting of the new crop is practically over, but sales have not been numerous. In view of the shortage of White honey for the country as a whole many beekeepers are holding, but sales so far have been at prices little higher than those of last year and in some cases lower. As recent sales have included numerous lots of "distress honey" price ranges have been rather wide. Several cars of White to Water White Sweet Clover-Alfalfa have moved recently at 5¾-6.10c per lb., 1 car 5½c uncased, ton lots 5½c-6c, few White 5¾c, 60's 6-7½c per lb., small pails 6½-8c, few 10c; Light Amber, carlots 5-5½c per lb.; less carlots 5-5¾c per lb. Comb honey has moved, No. 1 and fancy 12 oz. White Sweet Clover-Alfalfa $3.50-4.00; Choice, 12 oz. $3.35, 10 oz. $3.10; dark comb 12 oz.: $2.75-3.00 per case. Beeswax, 23-25c per lb. Details by States follow:

Colorado—Beekeepers are now packing for winter. Although the fall weather has been pleasant little fall honey was secured and except for favorable areas on the Western Slope considerable feeding will be necessary. The crop for the State as a whole is definitely short and the quality often below normal.

Wyoming—Frost held off until late and bees are generally well supplied with stores. In many yards, however, not only is the supply of young bees light but feeding for winter will be necessary. The crop was irregular but averaged very short.

Montana—Bees are mostly packed for winter. Because of honeydew in the food chambers fall feeding will be necessary in numerous yards. This year's crop of honey is darker and thinner than usual and extremely short.

Idaho—Extracting is about over and the crop is one of the lightest on record. It ranges from **20 to 60 pounds to the colony, with heavier** yields in a few favored areas. Due to the small crop the quality is below normal, some districts that usually provide white mild-flavored honey producing a darker, strong-flavored honey. Thanks to the late flow bees generally are going into winter with good stores and an abundance of young bees, though beekeepers question whether wintering will be as satisfactory on the darker-colored honey.

Utah—Frost has now stopped the gathering of nectar, but due to the long, open fall, with a light flow most of the time bees are going into winter with adequate stores and an abundance of bees. Brood-rearing is still in progress in the lower valleys.

Nevada—Bees generally are going into winter quarters with ample stores. Recent reports emphasize the short crop. For the State as a whole it may not average over 25 percent, and though favored localities had a fair crop, some sections report no surplus at all.

Arizona: Dry weather continues and while most apiarists are well supplied with honey, many colonies are being fed. Because of the dry season bees in desert apiaries secured about half a crop from mesquite, cleome and wild buckwheat. Scale colonies have been losing weight steadily since the flow stopped. Sales reported of Light Amber to Extra Light Amber Alfalfa at $5.40-5.60 per case of 120 lbs.; including one carlot at $5.60, with some beekeepers holding for $6.00 per case.

Southwestern States: Southcentral and Southwestern Texas—In spite of the dry weather bees are bringing in nectar from broomweed, cotton and tievine, with broomweed furnishing the most. Most colonies have enough honey for winter stores. Sales reported, Light Amber Cotton-Mesquite, small pails extracted 8c per lb.; bulk comb small pails 9-10c per lb.

Central Texas—The weather is hot and dry. Considerable loss reported as a result of the hives becoming queenless and worms eating up the combs. A little flow is still coming in from broomweed. Large lot sale extracted reported at 5c per lb.

SUMMARY—Killing frosts have come unusually late this year in important producing areas but cool, rainy weather often interfered with bees taking full advantage of the late

(Continued on page 709)

Monthly Report of Honey Producers

Early in October we sent the following questions to honey producers: 1. What is the final average yield per colony to date this season in your locality of (a) extracted honey? (b) comb honey? Give answer in pounds. 2. How does this compare with the average yield for your locality? Give answer in per cent. 3. At what price has honey been sold or contracted for, if any, in large lots (carload or less) in your locality, during the past month, for (a) extracted honey, per pound? (b) comb honey, fancy and No. 1, per case? 4. What are prices when sold to grocers in case lots of (a) extracted honey in 5 lb. pails, or other retail packages in terms of 5 lb. pails? (b) comb honey, fancy and No. 1, per case? 5. What is the retail price to consumers in your locality for (a) extracted honey in 5 lb. pails, or other retail packages in terms of 6 lb. pails? (b) Comb honey, fancy and No. 1, per section? 6. How is honey now moving on the market in your locality? Give answer in one word, as slow, fair or rapid. 7. What is the condition of the colonies for winter in your locality compared with normal, considering the number and age of bees and the supply of stores? Give answer in per cent.

State	Name	Comparison Aver. yield. Ex.	Comb.	of Aver.	Large lots. Ex.	Comb.	To grocers. Ex.	Comb.	To retailers. Ex.	Comb.	Move-ment.	Cond. of colo.
SE-Ala.	(H. C. Short)	..	..	..	..	..	..	..	.60	.25	Fair	100
S-Ala.	(J. C. Dickman)	..	..	..	..	..	.40	..	.50	..	Fair	80
S-Calif.	(L. L. Andrews)	100	..	130	.06½	..	..	..	.57	.15	Fair	150
C-Calif.	(Davis Bros.)	80	..	80	.05¾	..	.43	..	.55	.23	Fair	100
SE-Colo.	(Otis E. Adcock)	70	..	125	.06⅜	..	.45	3.38	.53	.18	Fair	100
E-Conn.	(Allen Latham)	..	..	..	..	..	.75	4.50	1.00	.28	Fair	100
S-Fla.	(C. C. Cook)	60	..	100	.08	..	.50	..	.60	..	Fair	100
C-Fla.	(Harry Hewitt)	30	..	50	.05	..	.50	..	.65	..	Slow	100
SE-Ga.	(J. J. Wilder)	90	..	135	.06½	..	.50	..	.65	..	Fair	100
NC-Ind.	(T. C. Johnson)	20	15	10	..	..	.60	3.80	.65	.20	Fair	100
NW-Ind.	(E. S. Miller)	50	30	50	..	..	.50	3.60	.65	.20	Fair	90
W-Iowa	(E. G. Brown)	30	0	20	.06¼	..	.55	..	.65	.25	Rapid	75
S-La.	(E. C. Davis)	40	..	110	.05½	..	.40	..	.55	..	Fair	100
N-Me.	(O. B. Griffin)	..	20	50	..	..	..	4.80	1.00	.30	Slow	100
N-Mich.	(Ira D. Bartlett)	40	15	25	.06½	..	..	3.50	..	.25	Fair	100
E-Mich.	(L. S. Griggs)	30	15	25	.07	..	..	..	.65	.20	Fair	50
S-Mich.	(Floyd Markham)	30	..	25	.08	..	.55	..	.75	..	Rapid	100
C-Mich.	(E. D. Townsend)	25	..	25	.08	..	..	..	..	..	Rapid	60
E-Minn.	(Francis Jager)	50	..	50	.07	4.00	..	..	.65	..	Brisk	80
E-Minn.	(Floyd W. Ray)	60	..	65	.06½	..	.45	..	.60	..	Fair	90
W-Nev.	(Mrs. E. G. Norton)	0	..	..	.05½	..	..	..	..	..	..	..
W-Nev.	(Geo. G. Schweis)	30	10	25	.05	3.25	.40	3.50	.55	.20	Slow	75
W-N. Y.	(Adams & Myers)	..	..	..	.08½	..	.50	..	.75	.25	Fair	..
NW-N. Y.	(Geo. B. Howe)	50	..	25	.08	..	.55	..	.65	..	Fair	100
C-N. Y.	(F. W. Lesser)	40	5	40	.07½	4.00	..	..	..	..	Rapid	100
SE-N. C.	(W. J. Martin)	150	100	100	.06¾	..	.65	..	.85	.20	Fair	100
C-Ohio	(R. D. Hiatt)	25	5	15	..	..	.58	4.60	.75	.27	Fair	90
NC-Okla.	(C. F. Stiles)	20	5	75	..	..	.45	..	.63	.18	Fair	80
W-Ore.	(H. A. Scullen)	100	..	..	..	..	.40	..	.55	..	Fair	100
C-Pa.	(Harry Beaver)	55	30	50	.08¼	3.25	.55	3.25	.65	.19	Rapid	90
SE-Pa.	(D. C. Gilham)	30	20	40	..	..	.70	4.00	1.00	.25	Faid	90
E-Pa.	(Wm. M. Glebe)	50	..	50	..	..	.55	3.50	.75	.20	Slow	100
W-S.C.	(E. S. Prevost)	50	25	80	..	..	.68	..	.87	..	Fair	80
NE-S. D.	(L. A. Syverud)	25	..	..	..	..	.46	..	.62	.20	Fair	50
C-Tenn.	(J. M. Buchanan)	60	40	120	..	..	..	..	.75	..	Fair	100
E-Tenn.	(W. L. Walling)	65	0	125	..	..	.65	..	.85	..	Fair	100
C-Texas	(T. A. Bowden)	40	..	60	..	..	.50	..	.60	..	Fair	50
S-Texas	(J. N. Mayes)	0	0	0	..	..	..	..	..	..	..	50
N-Utah	(W. H. Hendricks)	30	0	50	.05	..	.42	..	.50	..	Fair	100
W-Vt.	(Phillip Crane)	60	30	60	..	3.87	.75	4.75	1.00	.30	Rapid	100
S-Va.	(T. C. Asher)	40	..	40	..	..	.55	3.00	.70	.20	Fair	90
SC-Wash.	(Chas. Higgins)	40	0	40	.06	..	..	..	.52	..	Slow	95
SE-Wisc.	(N. E. France)	..	0	5	..	..	..	..	.65	..	Fair	100

A Good Brood Comb

Is Worth at Least

50 cents

AND A POOR BROOD COMB

----with Sagging Cells
----with Wavy Mid-rib
----with Patches of Drone Cells

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Three-Ply Airco Foundation

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"Three Thousand Cans Extracted--No Broken Combs"

"You may be interested in knowing that we have extracted approximately 3,000 60-lb. cans of honey with the 8-frame 'LIFETIME' extractor which we purchased from you at the beginning of the honeyflow. At the time the machine arrived, we were anxious to begin extracting and did not take the time to anchor it, other than to connect the extractor to the honey pump with a piece of hose. We operated the extractor that way for ten days, during which time we took off 1,000 60-lb. cans of honey. It is surprising how smoothly the extractor ran, merely set on the cement floor.

"We had a 16-year old boy running the extractor and regardless of weather conditions and the speed at which we extracted, there were no broken combs. We wish to assure you that we are **entirely satisfied** with our 'LIFETIME' extractor."

(Signed) STUART BRO.,
Jerome, Idaho.

NEW DENVER BRANCH NOW OPEN

The Denver branch is being opened to better serve the increasing number of customers which we have in the Denver area. The address is 3759 Wazee Street (corner of 38th and Wazee Streets) right at the 38th Street subway and just off highway No. 85. The conduct of our business at Denver will be along the same lines as at our other houses.

Superior Honey Company, Ogden, Utah

Branches at Idaho Falls, Idaho; Los Angeles, California and Denver, Col.

NOTICE! New Tin Container Prices Effective Oct. 1st Cancel All Previous Quotations

2½ lb. cans, per case of 24	$1.20	10 lb. pails, per carton of 50	4.70
2½ lb. cans, per carton of 100	4.10	60 lb. cans, with 2¼" caps, in bulk, each	.34
5 lb. pails, per case of 12	.95	60 lb. cans, per box of 2	1.00
5 lb. pails, per carton of 50	3.20	60 lb. cans, per carton of 24	7.85
10 lb. pails, per case of 6	.80		

F.O.B. Boyd, Wisconsin

For prices on Comb Honey Wrappers, Shipping Cases, and Glass Jars, refer to our 1937 Catalog.

All shipments made within 24 hours after order is received.

AUGUST LOTZ COMPANY, BOYD, WISCONSIN

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Containers

Plain Friction Top Cans and Pails

Friction top cans and pails are the best and cheapest package for selling honey to the consumer. Every beekeeper should have a supply and should push the sale of his honey by their use. We have one of the best lines of friction top cans and pails now manufactured.

Modernistic Jars (Skyline)

For several years, we have been furnishing Modernistic style of jars, and they are our best sellers. These jars are clear and bright and very attractive and we are able to make attractive prices.

All caps used on our jars are **white,** which adds to the appearance of the jars and of the honey.

Window Cartons for Comb Honey

While the window cartons are a little higher in price than the revelation comb honey wrappers, they are also more substantial and the sections of honey are more easily packed in them. For a strictly fancy product, the comb honey window cartons are of unusual value.

Revelation Comb Honey Wrappers

The best and most economical wrapper on the market. Our revelation flat wrappers and bag wrappers are made with cellophane and waxed paper and printed attractively so as to make best possible display of comb honey. These wrappers are much cheaper than the all cellophane wrappers and are more easily handled.

You will find these and many other items listed with full prices in our 1937 honey container list. Write to

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Vol. 65
No. 11

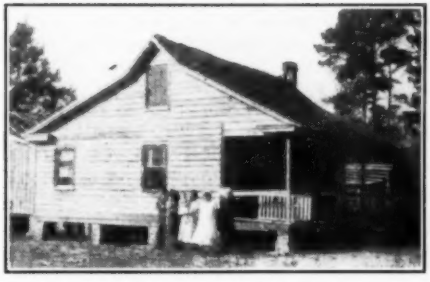
Gleanings in Bee Culture

November
1937

Trucking Bees South

Wilburt C. Wahl

It's Hard Work but It's Lots of Fun



Our camp in the swamps of North Carolina.

Last season was our third of hauling bees South for the winter, and these lines are written for the benefit of other beekeepers who might be contemplating similar projects. Judging from the questions asked us by many beekeepers it would not take much to "bump off" some of them into loading up bees and go rolling along to the sunny South for the winter to make the proverbial busy bee still busier.

While a big part of whatever success has been ours has been due to sweat and long hours, a lot of credit must go to Prof. George Rea of Cornell University for his advice and enthusiasm which fired us in the first place. Without him we, in all probability, would not have attempted the job. Prof. Rea had spent several years in North Carolina raising queens and bees and so he knew what he was talking about. And anyway, you can't help but get enthusiastic about bees when you talk with him. Gol durn 'im, many's the hive I've loaded on the truck down in that hot southern swamp and wished he were there to help "tote".

Getting Started

Charles Dickens said "Christopher Marley was dead, to begin with, deader than a door nail"—well when we loaded up our truck that February tenth, 1935, for that first trip south with some fifty double-story colonies of bees, our truck was nearly dead, too. She was some thirteen years of age, and with her best miles far far behind. She had no dual wheels, no four-wheel brakes and when she started going the roar she made became immediately everybody's business. It was an open-cab job and no heater. How well we remember going down some big hill in Pennsylvania with a load of bees and flaming brakes! That first load of bees we took out of the bee cellar when the outside temperature was ten below zero, and took them through storm, snow and sleet for nearly thirty hours until we reached our destination 800 miles to the south. Those hives were bottom screened and arrived safely. One hour after being liberated they were bringing in pollen.

We took two more loads South that year, and we learned a lot. It was an

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entirely strange venture to us. We had moved bees before, but not that distance. We had heard favorable reports regarding Florida but that was nearly twice the distance, and so far North Carolina has answered our qualifications pretty well. We can make increase and raise queens after April first and with luck, still have the increase come up North for the main honey harvest here.

The biggest question seems to be how to make nuclei. Trucking them North has a decided bearing on this. The more nuclei we could get on the truck the less trips required. We aimed to have our bees north before May 15, for after that the malaria-mosquito becomes active; snakes—rattlers, copperheads, moccasins, etc., are prone to be too frisky, and the heat so necessary to corn, tobacco and cotton gets to be too unbearable to delicate northerners accustomed to 40° below zero. So you see the size of a nuclei is decidedly important.

We decided to experiment and made our nuclei two ways. One was to put a twin nuclei or two nuclei in a standard hive with a bee-tight division-board from inner cover to bottom, four frames on one side and five on the other. The other way was to start a nucleus in a standard ten-frame hive and let it build up as it would. As it turned out, this last method was the better. It took more room per colony on the truck but we followed it all the second season, with further improvement the next season.

Some one might ask why we did not shake the bees down there into wire cages similar to the shipping package so common today, or why we did not make a light crate of thin wood to hold, say, three frames, and in this way carry a real truckload. We did think favorably of it at one time until we reasoned further, and conceived what we thought and still think is the ideal way to haul bees, and that is a single nucleus in every ten-frame hive with bottom-board securely fastened and a raised screen on top. The reasons are found in the following paragraphs and the disadvantages of the other nuclei are also explained. The shaking of bees into packages entails the construction of the package itself. Shaking bees into packages is a tedious job at best.

Discards Double-Nuclei Hive

Our first brain storm—that of having two nuclei per hive—we discarded after the first season because we had difficulty in getting queens established. Using a standard bottom-board with entrances as far apart as possible we found queens would get mixed. Also once a queen was established and laying in one side it was difficult for us to get the other side to accept another cell, if the first queen did not come back. The two nuclei were started simultaneously, each with two combs of honey, brood and bees. The nuclei were then closed up tightly and trucked several miles away to prevent their returning, released at nightfall and cells introduced the next day.

Feeding when necessary was resorted to. In many cases the queens on one side failed to return and it was almost impossible to get them to accept another. Perhaps they heard the music of the queen-right nucleus on the other side of the partition and concluded everything was all right and would have nothing to do with any more queen cells.

Some of the nuclei in the twin hives marched out in a body, travelled sixteen inches to the adjoining entrance and were adopted with a great fanning of wings. That made us feel bad. Then, too, it did not take long before those four or five frame nuclei were filled with bees and honey and they would swarm out to the top of some giant gum or pine and all we could do was to wish them speed with more or less sincerity. That made us feel worse.

What we tried to do before they got crowded, however, was to transfer them to bigger hives, which took time, usually just when a batch of cells was ready to hatch and be distributed to newly formed nuclei. Another draw-back with the twin nuclei hive was that when inspection time came around and we wanted to check on laying and accepted queens it frequently happened that when we opened the inner cover we would see a queen on the under side of the cover. To which side did she belong? This meant time out until we made sure. And in the meantime she might take wing. Some did. Of course, we could have made individual covers for each side of the twin nucleus; but we did not want the expense of making extra equipment. Throughout we stuck to our original standard equipment.

Furthermore, these twin nuclei being very strong when it came time to truck them north did not stand the trip so well; they were crowded and

At home in northern New York at the start of the honey flow. The two men helped load the bees and later paid us a visit (to renew their acquaintance with the bees).

As we left North Carolina heading north with 250 nuclei for the white clover harvest in northern New York.

so generated more heat. We also had trouble getting the screens to fit tightly on the division-board, and a slight shift of the screen on the trip caused trouble, no matter how well we nailed them.

Advantage of Single Nucleus Hive

But the biggest advantage of the single nucleus hive was that it was easy to screen, and that advantage amounted to something when 150 nuclei were to be screened, stapled and entrances closed and then loaded on the truck before it got too dark to see. At the northern end of the trip all we had to do was to drive into the yard, unload, open the entrances, put covers on the hives and turn in for several hours' sleep. And I mean sleep.

If they had been brought up in screened packages we would not have felt easy until the packages had been hived. This would mean more time lost and also no doubt more queens lost in introducing. In the case of the twin nuclei hives we also lost time in transferring the nucleus on one side to it's own hive the next day and this at a time when the bees were usually very cross.

Drifting was bad, and the weather up here is uncertain in May. Compare this with the single nucleus hive where we just had to unload on arrival, open entrances and after a night's sleep start south for the next load without delay or worry, knowing the bees could settle down without any fussing on our part. And we have found out it pays to unload on arrival. Once the truck stops and the motor is silent the bees get uneasy. If the day is warm combs will melt, honey will run out the bottom of the truck and the bees in the home yard will have a grand old caucus.

This year our increase will all be made in shallow supers. We believe they will truck easier. For one thing ventilation will be better with a top screen on a shallow hive than on a standard hive. And we can get nearly double the number on a truck, besides being easier to carry and load. When we arrive here the procedure will be the same and we can add a set of standard brood combs when necessary. That I think covers our handling and trucking.

Southern Experiences

The conditions of living down South, and the nectar secretions are different stories. Winter sees the furnished rooms, apartments and boarding houses quite full. We rented a very small house in what was called the Forest. The house was three feet above ground as is common down there. So the floors were quite cool, especially when we witnessed the coldest winter there on record, zero temperature, and eleven inches of snow at one time. But the neighbors more than made up for the lack of warmth. Later they helped us load up bees by lantern light until 2 A. M.

While bees bring in pollen almost throughout the winter, whenever it is warm enough to fly, they consume an enormous amount of honey, startling to us northerners who have been accustomed to complete suspension of brood-rearing. The second season we were South we trucked a ton of honey South in combs, in addition to what the bees already had. And we had to feed three and four hundred pounds of sugar weekly, besides, for six or seven weeks. But the honey flow started suddenly. Maples and huckleberry yielded lavishly and our feeding troubles were over. Gums, gallberry, blackberry, and holly can give enormous crops. Yellow jasmine is poisonous and the first year we

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nearly declared the project a failure on that account, yet two-frame nuclei suddenly built up into ten-frame hives on gums and gallberry which opened just in time.

The second season was a severe one. Wet as the swamps were in winter, an unprecedented drouth and heat without a drop of rain for weeks and weeks, blasted the flowers and where the previous year our two-frame nuclei built up to make a fine crop up North, the two-frame nuclei the third season went ahead very slowly and only half were of any use up North. Fires were a constant menace in this dry time. Two of our yards were barely saved from destruction. At one place the fire burned for six weeks, not only the trees above the ground but five feet into the humus as well. That was a bad season for us but we determined to try again. There is a fascination about the whole thing that is irresistible.

Our old truck has been replaced by a new one, and we travel easier and in more comfort. When we leave the cold St. Lawrence River with our loads of bees we can't help but feel they, too, will appreciate the southern sun and southern flowers. And we meet our northern beekeepers down there, too. Already four big commercial beekeepers have located around us at New Bern and when the nuclei are made bees are everywhere. But Mr. Sams, the North Carolina specialist, has uttered a warning "Be sure your bees are clean, or else—" And lastly use standard, interchangeable, bee-tight equipment. Nothing gums up the works more than "leaky" hives, or odd-sized frames and equipment. Keep your truck serviced properly throughout. If you burn out a bearing and have a truckload of bees standing in a broiling southern sun you will never forget it.

Clayton, N. Y.

A Letter to Institute Members

American Honey Institute
Madison, Wisconsin
September 30, 1937

Dear Institute Members:—

Recently while visiting at the office of the A. G. Woodman Co. in Grand Rapids, Mich., two beekeeping members of the Institute came in and made the statement that they thought the Institute had done more to improve the honey price situation than all other sources together. One of them mentioned that though a non-Institute member was cutting prices in his locality, he, with Institute literature had been able to carry on. He backed up his opinion with a $5.00 membership.

The continuance of the Institute over a period of ten years is, in my estimation, one of the most remarkable incidents in beekeeping history. I know the program must have been good, or members who have remained with us would not have continued over such a long period.

But as you all realize, too few are paying their fair share for honey publicity and in order to try to meet this situation we have developed plans calling for beekeepers to allow honey buyers to deduct 3c a case or 1½c for each 60 pounds. This means beekeepers will contribute only 1/40c per pound for honey publicity, which even though a small amount, if accepted by all producers would furnish sufficient funds to maintain a satisfactory program.

A printed card or sheet will be mailed by the buyer to every beekeeper with whom he is attempting to make a deal. This will read as follows:—

"American Honey Institute
Promoting
National Publicity For Honey.

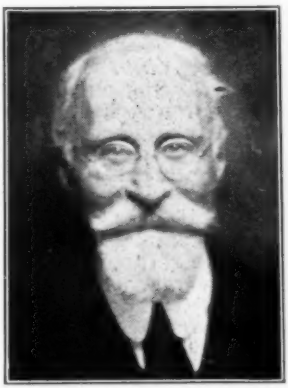
"Knowing the necessity for a flight to secure a fair share of the consumer's dollar for Honey in the highly competitive sale of food stuffs and believing that the American Honey Institute is doing a wonderful work in promoting the use and sale of Honey and that all individuals and firms securing an income from Honey directly or indirectly should do their share, you are asked to contribute to the Institute support.

"Producers are asked to contribute 3c on each case of 120 pounds of extracted honey and 1c per case on comb honey. This amount will be de-

(Continued on page 708)

Honey as an External Remedy

Dr. Chas. Brunnich



Dr. Chas. Brunnich.

Years ago I applied to bad, dirty wounds which had no tendency of healing and would not cease to suppurate, sugar in the form of finest powder. I scattered the sugar directly onto the bruise in a rather thick layer, and I had good success with this method. I knew that a strong solution of sugar was an antiseptic and attributed the good effect to this circumstance. In different German papers Dr. Zaiss in Heilgenkreuzsteinach described how he cures wounds with pure honey with excellent results.

In popular medicine, honey has been used in the form of ointments, mixed with meal or fat or other substances. Dr. Zaiss who had heard of these honey-ointments made many experiments with pure honey without any admixture and he had excellent results. He employed honey especially for contused bad irregular slashed and dirty wounds which are always exceedingly difficult to cure. He put the honey directly into the holes and on the whole surface of the wound and bandaged it. He observed, as a rule, that after 24 hours the latter had cleaned itself and got a proper red aspect. The honey is to renew all 24 hours after a good warm bath of the injured part. If the skin is only scratched without deeper injuries he daubs the place with honey in a thin layer, often without making a bandage. The honey dries up and forms a cover like a varnish and in a short time the hurt is repaired.

Dr. Zaiss recommends the use of honey especially for **burns** of all degrees and says this method is better than all others. Honey seems to be very good for those disagreeable furuncles in the canal of the ear, and on the nose. For wounds or infections in the cavity of the mouth he lets turn in the mouth a little clump of candied honey.

Dr. Zaiss gives some instances of his practice. I mention some of them as follows:

1. A wood-cutter contracts a thorn wound on his hand; the hurt is daubed with honey and remains without a bandage. In half an hour the honey is dried up to a protecting layer. Another treatment is unnecessary.

2. A man comes with the terminal phalanx of a finger injured in a grinding machine. The little member with bone broken hangs by a skin-lap. After a treatment with honey the member is again grown on.

3. A man gets two large carbuncles one after the other on his back. The first one was cut out by a surgeon and the wound healed with an ugly, deep cicatrix. The second is treated only with honey, a series of little atterstopples is pushed out; the holes are filled with honey. The process of healing passes rapidly and it remains an insignificant mark.

4. In the "Alpenlandischen Bienenzeitung" of February, 1935, we find a confirmation of Dr. Zaiss' experiences. A man relates there: "In the winter of 1933 I heated a boiler of about 35 gallons of water. When I opened the cover it flew with vehemence against the ceiling and vapor and hot water poured forth over my unprotected head, over my hands and feet. Some minutes afterward I got furious pains and I believe I should have gone mad if my wife and my daughter had not helped me immediately. They took large pieces of linen, daubed them thickly with honey and put them on my head, neck, hands and feet. Almost instantly the pain ceased. I could sleep all night, I did not feel much pain and did not lose a single hair of my head. When the physician came he shook his head and said: 'How can such a thing be possible'."

Nidau, Switzerland.

XUM

Improved Top Entrance

J. F. Norgren

Count Your Colonies in the Fall and Be Reasonably Sure of the Same Number in the Spring

Wintering bees is still a problem. If this were not a fact there would not be so many ways of going about it, from the expensive, laborsome cellaring method to the various types of outdoor packing ranging the scale of accomplishments from good to bad.

The purpose of this article is to explain a development of top-entrance packing that is worth the consideration of any beekeeper wherever packing is necessary.

There are several methods of supplying a top entrance, such as boring a hole near the top of the hive-body, which is considered as a check valve against clogging of the bottom entrance by dead bees and ice. It seems this "check valve" arrangement is a mere circum-navigation of the fundamental principles we (and the bees) desire to employ.

I can say candidly that the top entrance has removed the hazard of wintering to the extent that I can count my colonies in the fall and be reasonably sure of what to prepare for in the spring.

Top entrances have been used exclusively for wintering for five years —at first a chimney-like effect high enough to protrude through eight inches of packing which was set over the inner cover hole. The objection to these chimney things was that moisture ran down along them and soaked the inner covers, also they did not provide enough gangway and ventilative space for bees during the first warm days of spring.

Two years ago after finishing packing with the chimneys I started to mull on the question of using the regular metal cover as a top-entrance fixture. I had heard of another beekeeper making a top entrance with a metal outer cover by blocking up one end so the bees could come out of the hole in the inner cover and under the flange of the metal cover. Undoubtedly the knowledge of this arrangement precipitated my idea of making the outlet through the flange.

Securing metal covers I set to work with a brace and three-eights inch bit drilling holes through the flange of one end of each cover right below the metal edge. Cutting out between the drill holes with a jacknife left a rectangular aperture about one-half by two inches. The inside of the covers were fitted with rims, with one rim stick notched to correspond with the aperture in the cover flange. The rim supports the metal cover leaving a space seven-eighths inch high between the covers when the inner cover is inverted (rim down). This space becomes a weather-proof enclosed porch for the bees from which a few bees, stationed at the inner cover port, may draw air for ventilation.

Last year all my colonies were packed with top-entrance metal covers with the addition of a corrugated paper pad or insulator over the inner cover. Good insulating pads can be cut from corrugated shipping boxes.

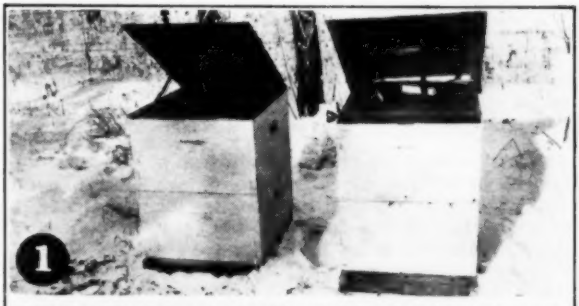
Twenty were strong two-story colonies, all of which came through in excellent shape. The remaining twenty were single-story nuclei taken from the parent colonies and given a young queen in August. Four of these nuclei died during winter—one from starvation, the other three still having honey left. The other 16 came through magnificently, built up without having to be strengthened in the spring and stored as much surplus as the parent colonies during the 1937 season.

I do not relate my experience with late summer divisions and single-story wintering as an advocate thereof. Ordinarily I would consider it poor management, but in this case it certainly proves that a properly constructed top entrance will bring a colony through even when other essential elements of good wintering are sub-normal.

Of course the welfare of the bees is always of first consideration, still one cannot ignore the matter of efficiency when the packing season arrives. Here again the metal cover top entrance reduces time and labor substantially. The really big job is equipping the covers with the necessary rim and entrance port. It would be a great convenience to beekeepers if manufacturers would make metal

(Continued on page 711)

No. 1—Showing solid bottom entrance blocks inserted. Left: Showing corrugated paper insulator up-ended on twig. An inch square hole is cut in the paper corresponding to the inner cover hole underneath. Right: Inner cover and paper insulator in place, metal cover up-ended. One or two blocks of wood between the paper and metal cover prevents the paper from buckling to shut off exit. Bees will enlarge hole in paper to suit their needs.



No. 2—Left: Top entrance equipped metal cover in place. Right: Metal cover showing rim notched at entrance.

No. 3—Ten colonies are placed on a deep bed of straw. Straw is also stuffed between the hives. Two colonies are placed facing west, three north, two east, and three south. A woven wire enclosure is set around the group, straw is pitched on and tramped firmly.

No. 4—The finished pack. The straw is tunneled out at each entrance port with the hand. A piece of lathe shoved in over the cover prevents the straw from falling over the entrance.

No. 5—Mid-winter and the bees don't mind. Pack in foreground is of single-story divisions. Before the end of winter two of these packs were completely out of sight under snow.

XUM

Hygroscopic Properties of Honey

R. E. Lothrop

Carbohydrate Research Division, Bureau of Chemistry and Soils, U. S. Department of Agriculture, Washington, D. C.

Flavor and high energy value as a food have been stressed to a considerable extent in promoting the use of honey. While these are indeed very valuable characteristics of honey, it is important to consider also some other characteristic properties of honey which are of great importance in its utilization, especially by certain large potential industrial consumers.

Ability of Honey to Absorb and Retain Moisture

One of the properties of honey that has been recognized to a certain extent, but regarding which there is little exact knowledge, is its power to absorb and retain moisture. This is known technically as hygroscopicity. This behavior must be reckoned with in the storage of honey.

The relative ability of the different kinds of sugars to absorb and retain moisture has been investigated to a limited extent. It is known, for example, that levulose, which is the predominant sugar present in honey, is more hygroscopic than most other sugars. It is not difficult to determine these facts as long as we are dealing with pure sugars. In cases of natural products such as honey, however, certain non-sugar substances which are present apparently exert a very marked influence on hygroscopicity, so that honey behaves quite differently from what would be anticipated if considered only from the standpoint of the sugars present.

Browne (1) has shown that under certain conditions honey is more hygroscopic than either invert sugar or levulose. He also found impure levulose to be more hygroscopic than the pure sugar. The limited studies that have been conducted along this line indicate that the hygroscopicity of sugar substances such as honey depend on the composition, both from the standpoint of the sugars present and from the standpoint of certain non-sugar constituents that are present in comparatively small amounts. Since the composition of honey varies considerably from both of these standpoints, we would expect different types of honey to show corresponding differences in hygroscopicity.

An investigation was made, therefore, to obtain some information on the relative hygroscopicity of various types of honeys as compared with common sugar syrups. Honeys of a number of different types were chosen so as to include those representing extremes in composition.

Tables I and II contain data pertaining to moisture absorption and retention of several types of honey in comparison with other sweetening agents. It will be noted from the results given in Table I that at 68° F., honeys of approximately normal density neither lose nor absorb moisture at an atmospheric relative humidity of 60%. This point was found to vary somewhat, due in part to differences in density among the samples, being a little higher for high density and a little lower for low density honeys.

Using this value of 60% atmospheric relative humidity as the critical point of moisture absorption for honey, and consulting relative humidity charts for various sections of the country, the following generalization may be made. When stored out of doors in winter, honey of approximately normal density would tend to

(1) Journal Industrial and Engineering Chemistry, Vol. 14, pp. 712-14 (1922).

Table I.

Ability of Honey to Absorb and Retain Moisture Compared with other Sweetening Agents

Material	Moisture Content	Relative Humidity at 68° F.—per cent			
		30	50	60	70
		Loss or gain in weight at equilibrium[1]			
	%	%	%	%	%
White Clover Honey	17.0	— 8.98	—4.41	+1.36	+9.01
Tupelo Honey	18.2	—10.38	—6.18	—0.59	+6.37
Buckwheat Honey	17.0	— 8.44	—5.91	+0.45	+6.80
Tulip Poplar Honey	18.2	—10.73	—6.54	—0.65	+5.81
Mesquite Honey	17.8	— 9.45	—5.83	+0.76	+7.30
Commercial Invert Sugar	20.0	—12.78	—8.48	—2.54	+3.23
Levulose Syrup	17.8	— 9.67	—5.11	+0.92	+9.03
Commercial Glucose	12.5	— 4.32	—3.16	+0.54	+5.43

[1]Values given are averages of several determinations.

Table II.

Relative Hygroscopicity of Honeys and other Sweetening Agents at the Same Density

Material Adjusted to Moisture Content of 20%	Ratio of Levulose to Dextrose	Relative Humidity at 68° F.—per cent 55	60	65
		Loss or gain in weight at equilibrium[1]		
		%	%	%
White Clover Honey	1.17	— 4.44	—1.70	+1.10
Tupelo Honey	1.70	— 4.92	—2.40	+0.80
Buckwheat Honey	1.02	— 4.68	—2.08	+1.18
Tulip Poplar Honey	1.14	— 5.00	—1.48	+2.06
Mesquite Honey	1.03	— 4.88	—2.74	+0.16
Orange Honey	1.26	— 4.98	—1.34	+1.02
Levulose Syrup (Impure)		— 4.70	—0.12	+3.30
Levulose Syrup (Pure)			—1.04	+2.80
Commercial Invert Sugar	0.91	— 4.98	—2.54	—0.44
Commercial Glucose		—11.14	—7.12	—4.82

[1]Values given are averages of several determinations.

absorb moisture in all sections of the United States except in the large area lying between Texas and the Pacific Coast and north to Montana and Idaho. In summer, on the other hand, honey would be so affected only in the area bordering the Gulf of Mexico and the Atlantic Coast and in the northern Michigan area.

The honeys were found to be more hygroscopic than commercial invert sugar syrup, and much more hygroscopic than commercial glucose syrup, but less hygroscopic than a syrup prepared from levulose. Levulose, either as a sugar or as a syrup, is, however, not a commercial article, and certain honeys of types which contain a high percentage of levulose are the most suitable sugar products available for specific use for which levulose sugar is desired.

Practical Applications

We now come to the practical application of these observations. Practical baking tests (1) were conducted to determine whether or not the ability of honey to retain moisture when it is mixed with other ingredients in baked goods is comparable to its behavior in the pure state. The ability of certain constituents to retain moisture and to prevent drying out is of great value for use in baked goods, particularly in cakes. The ability of honey to absorb and retain moisture, and thus to retard the drying out and staling of baked goods, is of great importance to the baker.

Table III shows the moisture losses of cakes baked with several types of honey compared with cakes baked with some common sugar syrups. A plain cake recipe was used in which one-half of the sugar required by the regular formula for cake of this type was substituted by the various sweetening agents tested. The cakes in which the various honeys were used showed better moisture-retaining qualities than those in which the other sweetening agents were used (with the exception of levulose syrup). Buckwheat honey showed the least moisture loss of all the honeys tested.

The foregoing results illustrate the practical utilization of a property of honey other than flavor or food value. It may be of interest to point out that a very large potential market for honey exists for uses in which hygroscopicity is a factor and, in some cases, the chief consideration.

Bread

Bread doughs usually contain from 3% to 6% of sugar (based on weight of flour used). The functions of sugar in bread baking which have usually been considered are: (1) a source of food for the yeast; (2) a source of

(1) The actual baking tests were conducted by the Baking Laboratory of the Food Research Division of the Bureau under the supervision of Dr. J. A. LeClerc and Mr. L. H. Bailey.

Table III.

Comparative Moisture Losses Among Cakes Baked with Various Types of Honey and other Sweetening Agents

Material	Initial Wt. of cake after baking grams	Wt. of Cake after seven days grams	Loss in Weight %
Tupelo Honey	279.0	266.0	4.6
Buckwheat Honey	281.8	271.0	3.8
White Clover Honey	277.5	264.5	4.7
Commercial Invert Sugar	278.8	263.5	4.8
Commercial Invert Sugar+Sucrose (2:1)	277.3	264.5	5.5
Levulose Syrup	281.3	269.8	4.1
Glucose	267.7	262.5	5.2
Malt Extract	259.0	245.0	5.4
Sucrose	279.0	263.6	5.5

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sweetness; (3) a source of color for the crust. Our score sheets for breads baked show that honey serves all these purposes very well, and any added advantage of honey such as increased moisture retention that would retard drying-out and staling would give it a more decided value in bread baking in comparison with competitive products.

Cakes and Cookies

In recent years a very large increase in the quantity of cakes baked by commercial bakeries has taken place. Since large bakeries, like many other large industrial units, maintain technical staffs who are striving constantly to improve their products, they are quick to appreciate the technical advantages offered by certain types of ingredients. The use of hygroscopic agents such as commercial invert sugar, glycerine, etc., is a well established practice in cake baking. The advantage that honey offers in this respect over other similar sweetening agents should give it added value in cake baking.

Tobacco

A considerable quantity of sugar is used for treating tobacco, particularly plug and cigarette tobaccos. It acts as a hygroscopic agent to prevent drying of the tobacco. It will probably be surprising to learn that this use represents the largest single market outlet for maple sugar at the present time. A number of hygroscopic agents besides maple sugar are used in tobacco, some manufacturers preferring to use substances such as glycerine and diethylene glycol.

The hygroscopic nature of honey should be of distinct value when considering its suitability for use in tobacco. However, there are undoubtedly other factors besides hygroscopicity that influence the suitability of honey for this use. Since this represents a large potential market outlet for honey, a detailed study of its suitability for this purpose is very desirable.

Other Industrial Outlets for Honey

There are a number of industries in addition to those already mentioned that offer outlets for comparatively large quantities of honey. In each case the utilization of honey by these industries involves a number of chemical and technical problems. These problems become much more involved when attempting to utilize a product such as honey, which is subject to natural variations in composition and behavior, than is the case with manufactured products of more uniform composition.

Candy Manufacture

There are a number of problems involved in utilizing honey in candy manufacture, such as flavor retention and caramelization, as well as moisture absorption and retention. Then there is the influence of certain non-sugar constituents of the honey on the type of crystals formed in the candy mass. There is probably no other industry which presents such a variety of chemical and technical problems as does the candy industry.

In this brief review of a number of industries that offer very large potential market outlets for honey, it is not intended to convey the impression that no investigational work has been done with a view to utilizing honey for these purposes. On the contrary, some excellent work has been carried out on various aspects of honey utilization. Rather, it is desired to point out the need of a much more systematic and thorough-going survey of these varied potential uses for honey. Particular emphasis should be placed on the more advantageous utilization of certain specific properties of honey with a view to greater and more varied use.

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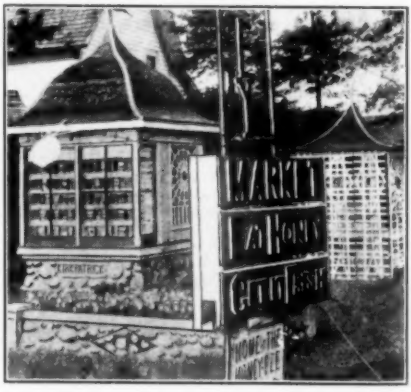
TO ATTRACT THE MOTORIST



The building at the left is glassed in the front and one-fourth of the two sides, with the door at the back. I can display about 250 pounds of honey in the front behind the glass. In the building at the right is a colony of bees in an observation hive. I have a miniature village with four pools stocked with fish and ten miniature houses, surrounded by flowers and shrubbery. —Geo. H. Kirkpatrick, Kalkaska, Mich.

Thirty Years of Cellar Wintering

E. S. Miller

Experience and Study of One's Own Locality Brings Results

For more than thirty years we have wintered our bees in cellars. On one or two occasions the bees have suffered from high temperature in early spring, brought about by too great a number of colonies for the amount of space occupied. So, also, in our early experience, too few bees or insufficient insulation has caused temperatures to drop low, resulting in dampness and loss of weaker colonies. Again, I may say, in our early inexperience, we have allowed colonies to remain too long in the cellar in spring, resulting in excess moisture with dysentery and loss of colonies. However, on the whole, our winter losses have been far less than with bees wintered outside in this locality, near the southern end of Lake Michigan.

Construction of Bee Cellar

Our cellars are of concrete, 18x20-x7 feet high, and are surmounted by honey-house and work-shop. The chimney in each extends up through the building to a height of about 25 feet above the cellar floor, and so long as the temperature outside is lower than that inside, there is a constant draft upward, removing any surplus moisture. Sawdust between joists provides top insulation. Basement windows, open in summer, are double-boarded in winter to exclude light. Covers and bottom-boards are left on the hives, but ⅞-inch entrances are kept open.

Plenty of Food

As to stores, we have never fed sugar, but by weighing try to make sure that every colony has an ample supply of fall honey and have noted no bad effects from wintering on goldenrod and aster. Of late years we have been removing bees from cellars sooner than formerly, usually about March 15 or even earlier if weather conditions permit, thus avoiding much of the dampness which accumulates in spring when the weather turns warm. Apparently, a temperature of 15 or 20 degrees does no harm to a normal colony outside so long as there is little or no brood to cover.

For success in cellar wintering, the room must be well insulated against high and low temperatures. To insure this, it must be entirely below ground or else well banked with earth. Over the top there should be several inches of sawdust or other insulating material. There should be a chimney high enough to create a draft that will remove any surplus moisture, or, in other words, to keep the cellar reasonably dry. A mere top opening with no chimney or other means of ventilation is worse than useless as it serves to admit cold air, causing condensation of moisture. The cellar must be kept dark and well drained. Cellar temperatures ought not to vary more than two or three degrees above or below 45 throughout the winter. With proper insulation, ample stores and a good queen, there should be no winter losses not attributable to causes other than wintering.

Disadvantages of Cellar Wintering

With cellar wintering there are a few disadvantages, one of which we have found to be that of being able to get extracting colonies to store enough honey below the excluder in the brood chamber. To put super combs down is not a pleasant job in cool weather and to carry two-story hives down and up cellar steps requires a strong back. However, we have rigged up a device by means of which two men can easily handle a two-story hive.

Advantages of Cellar Wintering

In the northern tier of states, where one has a permanent location and expects to continue beekeeping over a considerable length of time, a properly constructed cellar would, in my opinion, be a sound investment. Among its advantages are reduced labor, minimum winter losses, smaller consumption of stores, less depreciation of hives and insurance against pilfering in winter months where yards are somewhat remote from one's residence.

Of course, if one has only a few colonies or if in a temporary location, it would not pay to build a cellar. Furthermore, with a small number of colonies it would be difficult to hold the nearly constant temperature essential to successful cellar wintering.

(Continued on page 709)

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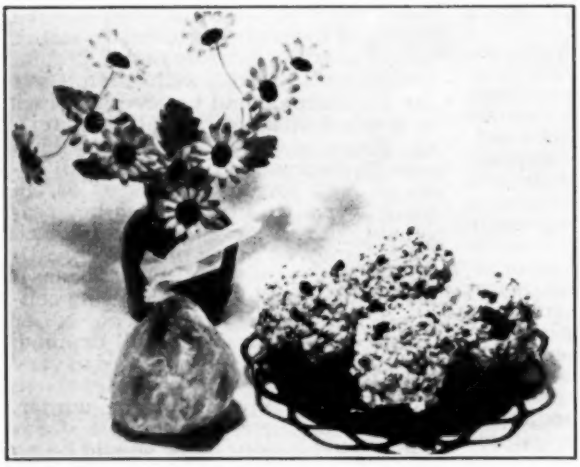
Three Old Favorites

Mrs. Benjamin Nielsen



They Are Doubly Delicious Treated the Honey Way

Honey Pop-corn Balls should be wrapped in cellophane or heavy waxed paper if they are to be kept long.

Shiny red apples, so crisp they fairly crack when you bite into them, heaps of tender, snowy popcorn and a bit of chewy candy make a perfect combination for many a cozy evening during fall and winter months. Add a cheerful open fire, a good book or one's favorite bee journals, and the picture is complete. We won't even hear high winds howling 'round the house, and completely forget drifts piling high!

Apples—Caramelized and Taffied

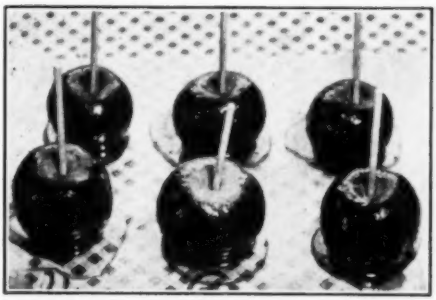
Let's begin with apples—caramel ones. Provide plenty of red apples and secure a supply of wooden skewers from the meat market. Wash and dry the apples on a towel. Into the top part of a double-boiler, measure 2 cups of sugar, 1 cup honey, 1 cup of fresh milk, 1 cup condensed milk or thick cream and ¼ cup butter. Set directly over the fire, boil slowly, stirring constantly until a few drops tried in cold water become very brittle. Remove from the fire, add 2 teaspoons of vanilla and set over hot water to keep warm while using. Dip each skewered apple in the caramel mixture, coating the apples thoroughly, then set on wax paper to cool and harden. If desired, the apples may be rolled in toasted coconut, then cooled on wax paper.

For Taffy Apples, combine 1 cup of brown sugar, ½ cup of white sugar, ½ cup honey, and 1 tablespoon of butter. Cook over direct heat, very slowly, stirring constantly until "crack" stage is reached—that is, until a few drops of the syrup crackle in cold water. Remove from fire, add 1 teaspoon of vanilla and place over warm water. Dip the apples, one at a time, and place on wax paper.

The children will not refuse apples treated in either of the above ways but they will hail with delight the following spicy confection: Measure 2 cups of granulated sugar, ½ cup honey and ¾ cup of water into a double boiler top. Set directly over the fire and stir until the sugar is dissolved. Boil without stirring, to 300 degrees F. or until a few drops tried in cold water become very brittle. The last part of the cooking should be done very slowly to prevent discoloration of the syrup. Remove double-boiler top from the flame and set over the lower portion of the boiler which contains boiling water. Add a few drops of red coloring and a few drops (to suit taste) of oil of clove, cinnamon or peppermint, mixing quickly. Dip apples which have been washed and dried thoroughly and prepared with wooden skewers. Work quickly so the syrup will not harden before all of the

apples have been coated. Let the apples cool and harden before serving. These are a grand treat for the children's party.

Prepared by any of these recipes the apples should be eaten the day they are dipped because the honey and the moisture in the apples cause the coating to become sticky in time.



The children will heartily approve of spicy Apples-on-a-stick.

This probably will not be considered a drawback or hardship for they are truly delicious and such fun to make.

Pop Corn Balls

And now for some pop corn balls. How much corn you will pop in preparation depends upon appetite and personal fondness for this confection. Anyway the following recipes take care of three quarts of popped corn and make two dozen medium sized balls.

For Honey Pop Corn Balls, assemble ¾ cup honey, ¾ cup sugar, ½ cup water, 1 teaspoon salt and 1 tablespoon butter. Cook sugar and water, stirring until the sugar is dissolved, cooking to "crack" stage. Add honey, at room temperature, stirring in slowly until thoroughly blended. Cook again for about one minute, or 240 degrees, if you have a candy thermometer. Remove from fire and add salt and butter. Pour immediately over freshly popped corn and form into balls. Wrap in heavy waxed paper.

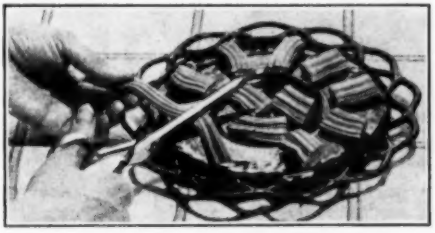
For Honey Raisin Pop Corn Balls you will use ¾ cup of honey, 1¼ cups light corn syrup, 1 tablespoon butter, 1 teaspoon vinegar, ½ teaspoon salt and 1 cup raisins. Wash the raisins and steam for 10 minutes. Combine the honey and corn syrup, boil to medium-hard ball stage. Add butter, salt and the raisins; pour mixture over the popped corn, mixing well. Form into small balls and wrap in heavy waxed paper. Large, salted peanuts may be substituted for the raisins, producing a tasty variation.

Honey Candies

Honey blends particularly well with other sugars in producing fine flavors in candy, and taffy is no exception. Honey candies require longer cooking periods. So do not become discouraged during a seemingly long cooking period. The delicious flavor of honey candies improves with age. Taffy should be cut and individually wrapped in cellophane or heavy waxed paper to prevent spreading and stickiness due to the moisture-retaining property of the invert sugar in honey.

Honey Taffy

This calls for ½ cup of honey, 1⅓ cups of sweetened condensed milk and a few grains of salt. Combine honey, milk and salt, mixing well. Cook in a heavy iron pan. Cook over very low heat and stir constantly to prevent scorching. When a few drops tested in cold water form a hard ball remove from heat and pour into a buttered pan. Allow to cool until the mixture can be handled comfortably. Butter the fingers generously and pull taffy until stiff. Stretch out into a long rope and cut in pieces with scissors.



Delicious "chewy" honey taffy.

For Black Walnut Honey Taffy, you will need: One cup honey, 2 cups sugar, 1 cup evaporated milk, 1 tablespoon butter, ¼ teaspoon salt, 1 teaspoon vanilla and ¾ cup of black walnuts, chopped. Combine honey, sugar, milk, butter and salt. Cook slowly to boiling point, stirring constantly. Then continue cooking, stirring occasionally, until a few drops form a hard ball when tested in cold water. Remove from heat and add vanilla. Pour mixture over the nutmeats, spread on a buttered pan. Cool until the candy can be handled. Pull until firm and cut in pieces.

(Continued on page 708)

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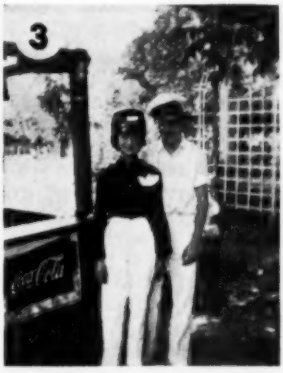
Beekeepers' Field Meet

Held at the Apiary of N. L. Stevens, Venice Center, New York, on August 14th

The State of New York held several important field meets of beekeepers at strategic points within the state. Possibly and probably the largest attended was the one held at the home of N. L. Stevens, Venice Center, New York, on August 14th. Dr. E. F. Phillips, President of the New York State Beekeepers' Association, presided. He is shown in his office in Fig. 1, operating his typewriter as he says with the "hunt and pick system". In Fig. 2 he is presented again, standing on the platform of a big truck just as the audience was assembling. He was in the act of introducing the speaker of the day, E. R. Root. In Fig. 6 he is helping the two children who had sung a duet and were just retiring from the truck. In Fig. 3 we see Howard Myers auctioning off bee supplies and general prizes to the highest bidder. In Fig. 4 we find Mrs. E. F. Phillips and Mrs. George Rea looking up at the platform and taking in the speeches. In Fig. 5 we can see a portion of the crowd that assembled just before the noon hour. At dinner time, it was scattered at different tables, (Fig. 7), opening their own lunch baskets and it goes without saying, that this feature of field meets is a time when friends get together and talk over their general problems. In Fig. 8 we have a honey lemonade and sandwich stand, and little groups of beekeepers shaking hands and getting acquainted with those whose writings they had read but whom they had never seen.

Everyone visited the modern extracting building which Mr. N. L. Stevens had recently erected where he had all the modern equipment for extracting honey in a large way. At any and all of these field meets it is possible for any beekeeper who attends to see how the other fellow does his work.

Third Annual Wabash Valley Round-Up, Newport, Indiana, Aug. 27-28



The loaves and fishes, or more exactly two hundred pounds of cat fish and a truckload of water melons had much to do with drawing the largest crowd that attended any field meet this season at Newport, Indiana, on August 27 and 28. Mr. L. R. Stewart, President, and also host, was another important factor in drawing the attendance—a real up-to-date host is he. While the crowd was perhaps not as large as was expected on account of the general failure of the honey crop, yet one can see from Fig. 5, that there was a large tent which was nearly full. In addition to this tent, there was another one for exhibits. A modern microphone was placed at the speaker's table and this was hooked up to loud speakers in both tents and over the grounds. Besides the honey exhibit, there were honey contests, cake contests, Four H Club contests, and last but not least, the Newport High School band dressed in very attractive uniforms of red and white. (See Fig. 4). Little Miss Eileen Mitchell, one of the high school girls was the band leader. (See Fig. 3). It took six typists to record the names of the delegates, who were furnished with badges, so that every one might know each other by glancing at this badge. (See Fig. 7). At the noon hour the crowd with their baskets assembled at tables to partake of fish and water melon which was furnished free. (See Fig. 8). A basket picnic is now one of the strong features at all summer field meets of beekeepers. Back of the tent of exhibits was the bee yard shown in Fig. 6. A model apiary with modern equipment throughout. Newport, Indiana seems to be an ideal location for such an event and the host and hostess, Mr. and Mrs. L. R. Stewart, saw to it that everyone was properly taken care of. The Four H Club contest was no small part of the exhibit of honey. (See Figure 2).

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A Confab

Conducted by the Editors

Our readers will recall "A Confab" that appeared in recent issues of this journal, from July, 1936, up to and including January, 1937. Considerable interest was manifested and we had contributions from beekeepers in various parts of the Globe.

We have received quite a number of inquiries as to why we discontinued this department, also as to when we intend to resume it. Some write that they read every word of Confab and would like to see it started again.

As a matter of fact, we did not discontinue this department intentionally. Due to the increase in advertising during the late winter and spring months, also the unusual amount of articles awaiting publication, the "Confab" got crowded out.

There are bound to be a few problems connected with conducting "A Confab". Occasionally we may receive more material than we can possibly use. If a contributor does not see his article in print he may become miffed and perhaps think that we are playing favoritism. Then, again, it may be somewhat difficult to determine when the discussion of a topic should be terminated and a new one introduced. An endless discussion may become tiresome.

There are many timely topics, as well as problems connected with our industry. "A Confab" gives the opportunity for beekeepers throughout the world to pool their opinions and experiences. Then, too, a friendly debate or lively game of give-and-take is likely to be enjoyed, not only by the participants, but the onlookers as well.

Obviously the objective of "A Confab" is, and should be the establishing of Truth. There is much about beekeeping that we do not know and would like to know. There is perhaps too much speculation. We all want the Truth for it shall set us free. But in arriving at Truth it is not unlikely that some of our questions may have to be submitted to a higher tribunal for an answer. The Gleanings editorial staff does not claim infallibility.

Before suggesting future topics for a "Confab" may we review briefly questions already considered in recent issues, to determine, if possible, whether or not a further discussion of these topics is necessary.

Do Queens Lay in Queen Cells

The question as to whether queens actually lay in queen-cell cups was discussed at some length. Some were (and doubtless still are) of the opinion that bees transfer eggs from worker cells into queen cell cups. This, of course, seems possible as well as probable. However, there are at least two cases on record of where a queen was actually observed in the act of depositing an egg in a queen-cell cup. Comparatively few have been fortunate enough to see this.

Bees Carrying Eggs

It appears to be the general concensus of opinion that worker bees carry eggs. It is not uncommon to observe worker bees in this act. Just what they eventually do with the eggs is not so easy to determine. Judging from the evidence brought in by various beekeepers it would seem that in some instances eggs may be carried by workers, from a brood chamber, through a queen excluder, and deposited in cells of combs in a super, for the purpose of developing queen cells. It is a little difficult for the editors to understand just how the worker bees, when placing the eggs, make them adhere to the bottoms of the cells. It would seem that the queen could do this more easily and naturally than worker bees. Dr. Phillips in his book "Beekeeping" page 106 says, "The egg is deposited on the base of the cell of the comb and is fastened in place by a secretion".

Bees Stealing Eggs from Other Hives

Here, again, in the "Confab" there were differences of opinion. While the majority of those who took part in this discussion were of the opinion that bees do not under any circumstances steal eggs from other hives, Mel Pritchard still believes that in some cases hopelessly queenless colonies do steal eggs from other hives in order to start queen cells. The facts he presented to substantiate his belief appear plausible.

Carbolic Acid for Removing Honey

This topic brought out a spirited discussion. Many arguments pro and con were very ably advanced. Those who favor the use of carbolic acid recommend pure phenol crystals and extreme care in the proper application of the acid. Some who tried carbolic acid could not be induced to continue its use, because of the danger of tainting the honey.

Before leaving this question we wish to bring in at this point two letters, one dated Jan. 12, 1937, from T. W. Cookinham of the firm of Bryant & Cookinham, Los Angeles, Calif., one of the largest packers and shippers of honey in this country and the other dated Jan. 7, 1937, from J. H. Jamison, Ada, Ohio.

Here is Mr. Cookinham's letter:

In one of your recent publications you brought up the subject of carbolic acid taints in honey and requested that if any honey shippers had had experience with the same they write to you on it. You also more or less inferred in your article that it was an exceptional case.

As dealers and shippers of honey, and we think we are considered the largest on the Pacific Coast, if not in the United States, we have had some very unsatisfactory experiences with honey that has a carbolic acid taint. At the present time, we have approximately 1500 cases of honey bought from one producer that we are obliged to reject on account of the carbolic odor, and we are writing to state that we think considerable publicity should be given to this carbolic acid treatment of the hives, because it is not going to do the industry any credit.

We would like to mention that this particular shipment was examined by a Federal Inspector and the United States Department of Agriculture Inspection Certificate was issued on same. Nothing was said regarding the carbolic odor, but the minute we opened the sample of it, it was very noticeable and we are not going to ship to our buyers and encounter difficulties which will be detrimental to the honey business in the long run.

Honey is a delicate food product and it does need the utmost care in handling to avoid the possibility of it absorbing other odors than its own fragrance, and, in many instances, some of the finest flavored honey has been contaminated by smokers, but these are only very rare instances. If the handling of the bees with the carbolic acid method is going to produce honey that takes the taint from the carbolic acid, there is no question but that considerable harm will be done to the industry. The trade will reject honey that has a carbolic odor and naturally the buying public does not want to purchase honey that they buy, not only for flavor, but for the fragrance, if it has a carbolic odor on opening the container.

It is our opinion that while the carbolic acid treatment may be quite effective in driving the bees away when the beekeeper is taking the combs out of the hives, there is always the possibility of open cells taking on the odor of carbolic and that by this method contaminating the entire lot of honey.

Of course, we realize that many beekeepers will instantly rise up in arms and say that their honey has no carbolic odor at all, also that the treatment is most effective. We have no argument against this as undoubtedly some honey does come off absolutely free from the carbolic taint, but on the other hand, any lots that do reach the market are certainly causing the industry considerable damage and any time we put a product into the hands of the bottlers that meets with unfavorable reception by the buying public, particularly on account of a carbolic acid odor, it naturally has its reaction, not only in the buying of honey, but in prices, because every customer lost is very difficult to regain.

Bryant & Cookinham, Inc.
by T. W. Cookinham,
Los Angeles, Calif.

Mr. Jamison's letter follows:

Received our "Gleanings" this A. M., so after lunch proceeded to scan it and also shave, (Santa brought me a Schick). I clipped along briskly until my eyes lit on "A Confab". I got so interested in it that I forgot my whiskers until too late. When I came to earth I found I had shaved about two inches too high above my right ear. Well, that meant a haircut, so now I have to wear a summer haircut in January. The cause: That carbolic squib by Elbert A. Cushman. Who pays for the haircut, you or Cushman?

After reading Cushman's and Findlay's stuff in "A Confab" I've come to the conclusion that someone was careless, couldn't read directions, nor follow them.

For good results with carbolic, I practice the following: (1), stagger pile of supers, bottom super on slats; (2), ventilate storage room, circulation of warm outside air preferred; (3), ventilate to outside at floor level (phenol gas hangs near floor).

We have been successful with phenol for the past two seasons. We use "Squibbs" because the medical profession uses it and we know it is reliable as to

(Continued on page 693)

From the Field of Experience

BALED STRAW FOR WINTER PACKING

O. S. Cox

Last year I decided to use baled straw for winter packing. I concluded if I could get it as cheaply as other forms of packing, I would save time and work as well as keeping the hives dry.

I bought a stack of straw at $1.00 per ton and the hay-baler baled it for $2.25 per ton. It ran about 35 bales per ton. This made the cost nearly 10c per bale.

I used 100 bales of straw to cover and protect 80 single-body colonies of bees from the heavy winds and extreme cold we are subject to in this territory. The hives were put together 16 in a row facing the east, and a row of bales put against the back of the hives lengthwise; then a layer of bales lengthwise of the hives on top, lapping one end over on the bales at the back and the other end projecting about 6 inches out over the front of the hives. The bales put tightly together spread 2 inches wider than the ten-frame hives. With a bale of straw at the side of each end hive it took 20 bales for the 16 colonies.

I believe the bales of straw which lap over the front of the hives help to prevent much of the cold and wind from piercing through the face of the hive. Also, it protects the bright sunbeams from shining against the hive coaxing the bees out when the air is too chilly on a sunny day.

We had over two feet of snow and the wind drifted it from all directions into heaps. Then a thaw came, and still the snow was several inches out from the front of the hives, but the hives were dry so that there was no possibility of ice forming around the entrances.

Now, when I unpack in the spring I pile the bales of straw up in a row to one side of the yard forming a windbreak and spread the hives out for the summer stands in 2 or 3 hours. By this method there is no loose straw scattered around to catch fire; for the bales will not burn readily like loose straw does.

These straw bales should last 10 or 15 years, thus making the cost for packing about one cent per colony annually. My previous methods cost two or three cents per colony in labor, etc., per year.

I have a board (slabs) panel double fence about 30 feet apart on the south and west of my apiaries (as shown in the picture) for a windbreak and a snow fence.

I am wintering four apiaries packed in straw outdoors, one apiary in the cellar under my house, and one apiary in the basement under the garage part of my warehouse, so my bees won't all be in one kind of a basket.

Shelley, Idaho.

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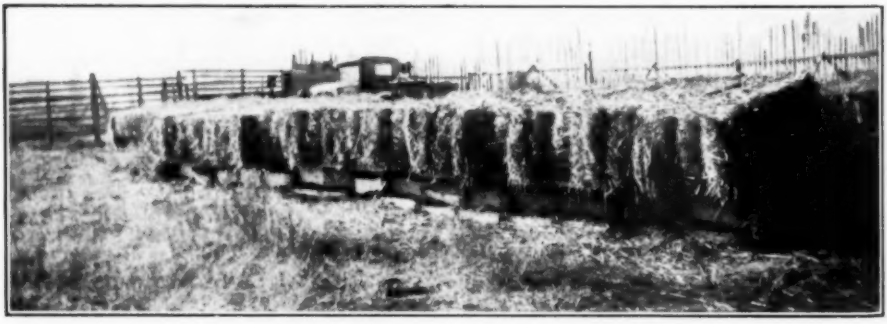
CYPRIANS SWARMED ME OUT

Ben P. Edgerton

Starting as a novice about 1909 I kept Cyprians, and near Cyprians, till 1923 when I went out of the bee business. How I happened to keep that race is too long a story to tell. I



Front view of row of single-colony Caucasian bees packed for the winter, with a snow fence and windbreak protection on south and west sides of the yard.

learned to avoid the stings to quite an extent. Very gentle handling only in fairly warm weather, and care not to put smoke into the brood chamber, will partly solve the sting problem, unless one makes a bungle.

After three or four years I had 24 colonies of hybrid bees, about 80% to 90% of the blood being Cyprian, the rest of the pedigree Caucasian. They wintered splendidly in standard bodies with a shallow comb super toenailed below and a special deep frame going down through both bodies. This gave a capacity of about 15 frames. Four-colony winter cases were used for the most part.

That was my only success with them, for they swarmed and swarmed after gathering about one shallow extracting super from dandelion. Just a super or so of honey here and there at the fading of the clover-basswood flow constituted the rest of the crop. (There was no good sweet clover flow here then. I was the first farmer, locally, to plant that legume in 1911).

Quite likely bad beekeeping on my part may have caused some of the swarming. About 1923 foulbrood got into the apiary, and being badly discouraged, I burned bees and fixtures, and quit.

Still They Had Good Points

No doubt you wonder why I was such an all-around fool and glutton for punishment as to keep that race so long. The answer is that they had some very good qualities that kept me hoping to find a way to control swarming.

Cyprians shake very easily. A couple of light bumps will get them out of a shallow extracting super. At the same time they never run, bunch, and tumble off the combs like blacks. They defend their homes so well against robbers that the smallest nucleus is unmolested in any state of flow. The queens are very evenly prolific. A beekeeper would hardly know there was such a thing as prolific and unprolific queens if he kept only that race. And there is very little confusion and drifting when winter cases are put on or taken off. Cyrians seem to know where they belong.

In the ABC and XYZ of Bee Culture, and elsewhere, it is stated that Caucasians from well up among the mountains are gentler and less inclined to swarm than stock taken from the low valleys. Perhaps this might hold good for Cyprians, or more likely Syrians. There is only Mt. Troodos in Cyprus, about 6400 feet, and if bees are kept on the peak they are likely valley stock moved there, for distances are short in Cyprus. But in the Syrian region the Taurus and other mountains are quite extensive and run up to 12,000 feet. There might be a fair chance for an indigenous mountain strain from higher levels than those imported hitherto. Or if the Saharan bees could be secured they might prove comparatively non-swarming and non-stinging.

We may even come to try one of the Indian species told about by Sardar Singh in his intensely interesting story in the July Gleanings. If such are brought to this country I might like to get some, just to see what they look like.

I now have only a few colonies of Caucasians for pollinating purposes. If I get a little honey from them I won't throw it away.

Hicksville, Ohio.

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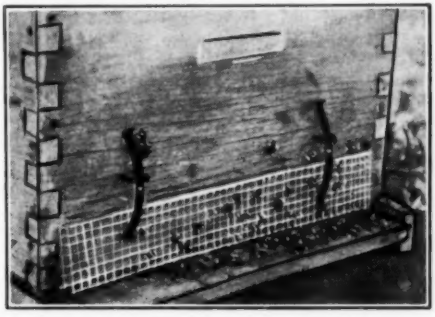
MOUSE GUARDS EASILY PUT ON

Walter H. Hull

Mice will sometimes gnaw at an entrance block until they have enlarged the opening enough to let them pass. Some Virginia beekeepers have found



Close-up of mouse guard held in place with super springs. Nails bent at right angles hold the spring down and give the necessary tension.

that in order to use an entrance that gives the bees ample ventilation during the winter and at the same time keep the mice out, the only safe procedure is to fasten a strip of hardware cloth over the entrance of each hive. This wire is generally nailed on with tacks or small staples, a rather trying job that has to be repeated each year.

The job can be simplified by clipping the mouse guard over the en-

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trance with super springs, as shown. For a full-width entrance drive two 6d coated nails into the front of the hive about 2½ or 3 inches above the entrance. The nails should not extend through into the hive where they would interfere with manipulation of the frames. With a pair of pliers bend the heads at right angles. Then slip a super spring under each nail, with one end over the wire entrance guard. This is easier than tacking the wire on, but as the nails can be left in place from year to year the work of putting on and taking off mouse guards becomes much simplified and is less likely to be neglected.

Vienna, Va.

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P. S. TO ARTICLE IN OCTOBER ISSUE ENTITLED, "TOP ENTRANCE WINTERING"

H. A. Schaefer

[We asked Mr. Shaefer, the writer of this article to furnish a little more detailed information on the outer end of the top entrance, and how the paper is fitted up to the end of tunnel. This he has done, as follows.—Editor.]

Regarding the method of fastening the tar paper to the tunnels, we have no picture showing this detail, but it can easily be explained. The paper is on the outside of the tunnel, and to keep the packing material from pushing the paper away from the tunnel, we just tack on a small strip of wood ⅛x½x4 inches, on the outside of the paper, the nails fastening into the top part of the tunnel. This binds the paper to the tunnel. Three holes are punched into the paper opposite the hole in the tunnel, holes are made with a sharpened stick the size of a lead pencil. The strip of wood serves two purposes, keeps the paper next to the tunnel so that no packing clogs the tunnel entrance, and forms a sort of weather strip above the entrance holes keeping out rain or snow. As the weather gets warm in the spring the bees gnaw the paper away to the size of the tunnel entrance. This gives them a larger entrance when they need it, but is small during the winter. These cleats or strips are what you see in the pictures and are not the tunnels protruding.

The last paragraph of my article on page 646 should have been the last sentence on page 605, as it explains why the bees were quiet in the hives that were clogged with ice and dead bees. Eight of every ten hives had their bottom entrances clogged, five of these were in distress and three were not. Those that were not in distress must have been weak or small clusters.

Osseo, Wisconsin.

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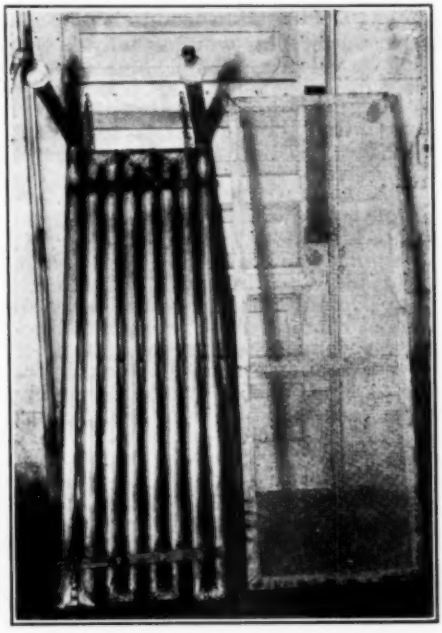
CAPPING MELTER USED BY R. H. KELTY, OF LANSING, MICHIGAN

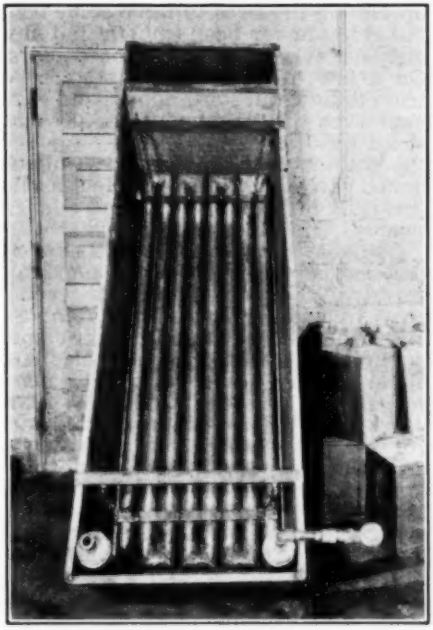
M. J. Deyell

Many and varied types of capping melters have been developed, especially during the past three decades, since the beginning of the present extracted honey era.

A capping melter, to be efficient should handle a fairly large volume of cappings easily. It should not scorch or darken the honey and it should not be unwieldy to handle. The machine developed by R. H. Kelty appears to have some good points. Pictures and legends by Mr. Kelty follow:



No. 1 shows the steam-heated copper tube unit with screen frame which is held in place approximately one inch below the heating element by means of wire.



No. 2 shows the heating element in place in the tank. Note that the height of the unit may be regulated by four chains hanging from hooks on an angle-iron support. The far end of the tank is the honey-well. In use the heating element and screen are kept several inches above the level of the honey and melted wax in the bottom of the pan. The screen is to catch the slumgum which collects fairly rapidly from cappings from old combs. Two men uncap directly onto this heating element. The heating darkens the honey somewhat. At the end of the day the honey is pumped out of the bottom of the tank with the honey pump, the wax is allowed to cool, and the next morning it is lifted off in the form of an inch-thick cake.

Perhaps one might ask, why not use common two-inch iron pipe with return bend elbows. While the iron would be safe to use, the pipes would be spaced too far apart thus letting the cappings through before they were completely melted.

The big thing in favor of this melter is that it melts the cappings as fast as they are shaved from the combs. In other words, the disposal of the capping is automatic and at the end of the day's extracting the work is done for the day.

On the other hand, if the cappings are allowed to accumulate in a capping-box they must later be forked into a draining-box or into the extractor where the free honey is thrown out by centrifugal force. In either case the partially dry or wet cappings must be forked over into a melter where the remnant of honey and wax are separated. All this necessitates extra handling twice over.

By the above plan this is avoided with a saving of labor and time.

While it is true that the color and flavor has been impaired slightly we find a ready market for all such honey as bakers will pay almost as much for it as honey direct from the extractor.

The screen just under the hot pipes catches the refuse or dirt so that the honey and wax are comparatively clean and ready for market without any extra treatment.

No. 3 shows a rather poor picture of the entire tank, side view. The tank is mounted on a wooden frame which in turn is mounted on four-inch castors to facilitate moving about to and from the honey pump. The tank is 5 feet long and 22" wide.

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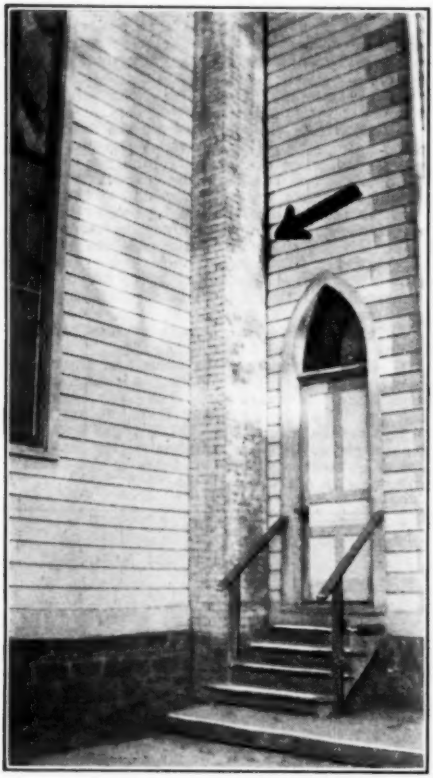
BEES IN CHURCH WALL FIFTY YEARS

Bro. Stephen Babek

Saint Boniface Church in Fort Smith, Arkansas, was built in 1886. As well as can be ascertained from tradition and old pastors of that church, a swarm of bees settled in the



The arrow points to the entrance of the home of the bees.

wall of the church soon after it was built, probably the following year. However, the exact date is not known. The bees were gentle and bothered no one, consequently they were left in peace. The space is rather narrow, only six inches between the outer and inner walls. No one knows how many spaces the bees occupy between uprights. They made a good choice of location near the chimney which kept them warm for many winters. Of late years the church building is being heated by means of gas stoves, but the bees continue to survive the winters.

It is said that on several occasions schoolboys would throw their caps up among the bees to have some fun, but it has never been known that any one was ever stung in all these years. On a few other occasions men have tried to take out some honey, and perhaps even the bees, but the honey was stone hard, and not wanting to tear the church wall, the idea was abandoned each time. In favorable seasons this religious colony sends out a large swarm, sometimes two.

Contrary to what one would expect, the bees keep their Italian marking very well. They would pass for second cross hybrids. Perhaps the neighboring drones helped keep up their color.

The most striking part of this "let-alone" colony, however, is that it never failed to requeen itself for fifty years. That means that never a virgin got lost in mating, not one was a drone layer, or else the bees stole eggs to rear a new queen. Were it not fifty miles away, I would have taken them out two years ago by placing a nucleus hive in front and trapping the bees out.

Mr. William Bauhaus, a friend of mine, who is employed at St. Scholastica's Academy in Fort Smith, and who formerly kept bees, is making a new start this spring with six colonies. He is preparing to take the church swarm out in early May by the above-mentioned method. This colony will then be able to celebrate its Golden Jubilee in a modern hive.

Subiaco, Ark.

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WORD-OF-MOUTH PUBLICITY ON HONEY

Emory Ward

"It takes two things to produce continued sales," a well-known merchandiser once said. "A good product and plenty of advertising."

The beekeeper who is eager to maintain continued sales finds little difficulty in producing a good product —Nature takes care of that—but maintaining an advertising campaign, he concedes, is an expensive undertaking. He errs, however, in believing that all advertising is expensive. To the average beekeeper the term "advertising" has become synonymous with "costly" chiefly because he fails to realize that the most effective type of advertising is free.

Among experienced advertising authorities it is generally agreed that ordinary word-of-mouth is by far the most effective in bringing about increased sales. "Get people talking

about your product," the ad-men say, —"get them to tell their friends about it, and you'll soon start a whispering campaign that will send sales mounting."

The beekeeper is therefore confronted with the problem of how to stimulate this favorable word-of-mouth publicity.

One mid-western beekeeper employed a clever bit of strategy that increased the local consumption of honey by making a special appeal to the ladies of the community. With the aid of his wife, he enlisted the local Ladies' Aid Society and through them started an increased demand for honey.

After holding their regular business meeting as a guest of the beekeeper's wife, the society was treated to an unusually tasty luncheon of dishes, all of which required generous amounts of honey in their preparation and which were distinctly new to the community. Naturally, woman-like, they requested recipes of each of the new dishes in order that they might prepare them for their own families. From then on the going was easy. The beekeeper's wife revealed the innumerable uses she found for honey in cookery—the way it made regular dishes more delectable, and the distinctively delicious taste it imparted to all preparations.

From this comparatively small group the newly-created enthusiasm over honey was spread unto other individuals in an ever-widening circle until most of the community was aware of the excellence of honey when used in cooking. The enthusiasm of a few had been used to set off an effective word-of-mouth advertising campaign that cost the beekeeper nothing, but which produced satisfying results. The eventual result was, of course, an increased demand for honey, and greater profit for the beekeeper.

Free publicity of a different nature has been obtained by many beekeepers through the household or women's page of the local newspaper. To create a greater demand for honey, the beekeeper supplies the local paper with a generous supply of free recipes for tasty dishes each of which requires honey in their preparation. Still others have supplied honey free of charge to all church or grange suppers, or any other neighborhood functions of a similar nature.

In all cases the purpose has been the same—to get folks talking about honey. And in all cases the eventual result has been the same—an increase in the demand.

As the merchandiser said, "It takes two things to produce continued sales —a good product and plenty of advertising." Fortunately, Nature has supplied the beekeeper with an excellent product—it's up to his own initiative to secure the advertising.

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SOME EXPERIENCES WITH TWO-QUEEN COLONIES

John Bruce

I think it was in 1929 or '30 that I first began to use two queens to the hive. I started it by accident but have kept it up more or less since. The first time I did it I was keeping cells in a Demareed brood chamber. The weather was pretty warm so I slid the super back for ventilation.

One of the queens hatched out before I had a chance to use them, and mated from this top entrance so I just left her there. This was in May during a white clover flow. Well, that hive produced 369 pounds of honey, 96 being sections. The best of the other hives ran about 240 pounds of extracted honey.

Since then I have taken each hive as it got the swarming fever and sorted the brood combs, leaving the sealed brood and the old queen in the bottom brood chamber or chambers (as I let them have the run of two or three bodies in building up), leaving one or two cells to hatch along with the unsealed brood in the top chamber. This top chamber is then shoved forward to leave flying space in the rear.

This draws up a large amount of young bees that are cluttering up the space in the brood chamber below.

However, this sytem becomes rather expensive on stores if there is only a short honey flow. Last year on the sweet clover flow, hives treated this way made about 160 pounds. Hives not treated made a little less but the flow lasted only about twenty-five days when the hot winds burned up the plants. Well, in this instance there was so much brood that I was forced to leave about 60 pounds of honey after killing the old queen. There was no fall flow whatever, as the drouth lasted, and these hives ran low on stores. So the results depend on the season.

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I generally operate without excluders to make every passage as free as possible, using a shallow super of honey as an excluder. Some times I have used a deep super of honey that I intend for the food chamber above the brood chamber. The excluder is placed under the top super containing the young queen. I generally leave them alone until I start removing the honey, when the young queen is shifted below to be the wintered-over queen.

For a short honey flow or where it is necessary to move to different sources of nectar this would not fit at all, not where the character of the honey varies as in buckwheat, clover and basswood regions, but here I depend on white Dutch and sweet clover for a flow of about seven or eight weeks in a fair year. The last few years, say about four, the drouth has had a stranglehold on this district and two seasons were extremely wet, early, so that was not very good for either one or two queen hives.

Just try one hive like this, at least, if you have any white Dutch and sweet clover flow in your apiaries and you can leave the honey on without mixing with inferior honey. I'd like to hear how it works for other people.

Chesterfield, Ill.

[Mr. Bruce does not say whether or not the old queen is still in the hive late in the season when the hive is overhauled. We find that the old queen disappears, as a rule, after the honey flow and thus the young queen has full sway.—Editor.]

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ARE BEES COMPARABLE TO HUMAN'S?

F. H. Foster

After reading the article by O. W. Park on disease resistance in May, 1937, Gleanings in Bee Culture, it seems to me that we beekeepers had better let the experts attend to the breeding of a strain of bees that will be disease-proof. But there is something that we beekeepers can do to help, which I will mention later.

If we consider a colony of bees as an individual, instead of 50,000 or 75,000 individuals, we can compare it to the human body. And to carry the analogy further, lets compare the individual bee to the corpuscles of blood in our bodies. We have been taught to believe that when a stray germ enters the human body, the corpuscles in the blood immediately pounce on, and destroy it and if the germs do not come in too large numbers the blood corpuscles are able to drive off or destroy them and the human body suffers no harm.

Next let's take what is one of the most common ailments of the human, the common cold. Some people suffer continuously, others occasionally, and then there are those lucky ones who never catch colds. And so with other contagious diseases, there are some people who appear to be immune.

Now to get back to bees and AFB, and people with colds. All colonies in an apiary do not get AFB at the same time, but if conditions get bad, so far as I know the whole apiary may be wiped out in time.

Mr. Park has proven that there are colonies of bees able to clear up a mild infection of AFB. It is hardly possible that the experts have the only resistant colonies in the country. There may be colonies that do not become diseased comparable to our humans who never catch cold. It seems probable that scattered around the country are colonies that are more or less able to rid themselves of a mild infection of AFB.

While we let the experts worry over ways and means of fixing "resistance" in a strain of bees—and we encourage them all we can, and see that the Government supplies them with the money and equipment so necessary to success—let's consider the one thing that we beekeepers can do if we all work together.

When we find a case of AFB, we know that this colony hasn't very much resistance, — at least not enough. We may be able to save the bees and queen, and do such a thorough job that we destroy every AFB germ in the hive.

But in doing so haven't we saved a queen who's bees are not resistant? And if that queen has daughters and granddaughters, they are not going to inherit much resistance from the maternal side.

So, by destroying all diseased bees and queens we beekeepers can do something for the good of beekeeping that doctors can't do with humans who are constantly spreading cold germs around the community.

The point I have been trying to make is that if we burn our AFB colanies as soon as we find them, we are

getting rid of a source of infection and gradually we will be getting rid of the bees which are most likely to become infected.

I have had some experience in shaking bees from AFB combs and I believe if I had burned bees and combs I would have been better off.

Fallen Timber, Pa.

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HONEY IS WHERE IT'S FOUND

Wm. H. Hargett

In most localities the drouth may have had a drastic effect on the rural beekeeper but the city beekeeper has nothing to worry about so far as weather conditions are concerned.

Honey is produced in large quantities in one part or another of the country every year. Great quantities are shipped to all cities—and there are just as many empty honey containers unloaded on the city dump, regardless of drouth or deluge. I say empty containers, but an "empty" discarded jar or pail may contain more honey than an acre of drouth beaten sweet clover. Then, too, there is always the possibility of the bees securing a nice load of foulbrood along with the honey.

My bees may be located seven miles (in any direction) from the city limits, but does this distance deter them from storing a fair surplus? Of course not. What they can't syphon from jars and other discarded containers thrown on the river dumps they gather from greenhouses, parks, and the clover and dandelion that always come up after a lawn has been sown to bluegrass.

Why, I have heard of city bees even going to market for their honey. Only last fall a proprietor of a large grocery store, who displays more of his wares on long sidewalk counters than he does inside the store, placed 25 sections of comb honey (unwrapped) at the far end of one of the sidewalk counters. Business was a bit rushed that day, flies thick as ever, and nothing unusual was noticed. Late that evening, when the groceries and vegetables were being replaced inside the store for the night, one of the clerks reached with both hands for the sections. Expecting them to weigh nearly a pound each his hands rose into the air as if he had picked up an empty tea-kettle that should have been full of water. There was nothing but empty comb, dry as ghosts' teeth, in the wood sections.

Being personally acquainted with the proprietor and his being aware of the fact that I was a beekeeper, nearly cost me 25 pounds of honey. It was with some difficulty that I made him understand that some other local beekeeper's knavish bees could have made off with his honey.

The whole thing seemed a bit perplexing till I suddenly remembered that on the day the honey disappeared I met the self-styled "inspector" of whom I had run afoul during the spring and referred to in my article "Starting's Easy, But,—" appearing in January, 1937, Gleanings. The "inspector" was gazing longingly at the sections of honey on the sidewalk counter. After a little chat and chortle over past experiences we went on our way. About an hour later I came back by the store, but on the other side of the street, whom did I see but the "inspector" again.

He was standing by the curb, the tongue of a little red wagon in his hand; in the wagon, a hive of bees. The entrance was open and, as I remember, the bees were making a "beeline" for the store across the street.

From past experience, I knew that when the "inspector" and a hive of bees got together almost anything, as long as it was personified trouble, could happen, and on that crowded street it would have unlimited possibilities. Despite my curiosity I ducked into an alley, hurried home and dialed the radio to the local police station broadcast. As I heard no scout cars being directed to the vicinity where I had last seen the "inspector" I reasoned that even he had a lucky star over him at times and I soon forgot about the matter until after the grocer accused my bees of carrying off his honey.

I thought it was a smart but low-down trick for the "inspector" to think of and I wondered if he thought it up all by himself. Methinks he got the idea from reading about the article "Honey Caves of Texas", appearing in Gleanings recently.

The rural beekeeper may envy the city beekeepers' local and convenient market but the latter has not a little trouble in disposing of his honey. It seems that the large grocery stores always choose honey for their "Special Attraction"; the price being cut to

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a few cents per quart, and that fact is blazened to all via the newspaper ads.

There is a law of averages though that often works in behalf of the city beekeeper. Immediately after harvesting my first crop last year I hung a "Honey for Sale" sign on the gate. The next day a prospect called and inquired the price of my honey. I informed him it was 20c per pound in two and three pound jars. He thought that was higher than the watermark on a southeast Missouri farm house. My dear wife, who is always on hand in just such emergencies, blurted out that 20c per pound wasn't high at all; it was being sold at so and so's grocery for 30c a quart. I told her, in a rather abusive tone, that I would take care of the selling and for her to see who was banging on the front door.

The sale, wasn't lost, however. My prospect replied that a quart wouldn't last his family very long—he would have to have at least three pounds. And before my dear wife could say another word I gave her a very hard look indeed.

St. Louis, Mo.

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COMMENTS ON CURRENT ITEMS

J. F. Dunn

The articles on roadside selling make good reading. Extensive experience has convinced me that it is an ideal way to retail a large quantity of honey. Many tourists from the U. S. A. pass through our beautiful village of Ridgway which is near Niagara Falls. From four to twelve thousand cars pass our honey stand each day. At one time we had about 100 colonies alongside of the stand. The hives were neatly painted and we sold not only all the honey produced at that apiary but 5000 pounds besides.

At one time we sold honey in both glass and tins to merchants in one city and the towns within a radius of 20 miles, and worked up a good business. We called once each month, collected from the customers and replenished the stock.

I Broke the Rule

A man drove up to the stand and said, "I want to buy some honey. Is this honey pure"? I said, "Yes sir, it is certainly pure". Said he, "I know that honey is adulterated now-a-days and I never buy without testing it." I replied, "Pardon me, but I know you will find it true that no one in this country adulterates honey." He said, "Let me try it." I shoved a glass jar toward him saying, "Unscrew the cap and take one of those clean strips of wood, dip it in the honey and give your decision." After doing so he said, "Now there is just something about that honey"—I interrupted him, "See here, mister, you cannot buy any of my honey. I wouldn't sell you any of it at any price." He asked, "Why?" I said, "You are wasting your time. The Dunn's have lived in this neck of the woods for 165 years without raising any four-flushers. I have been raising honey for more years than you have seen and have never soiled my fingers with adulteration, and I have not the slightest desire to have you for a customer." Well, he ate humble pie right there. I got his apology and he got the honey.

Can Robbing be Avoided?

It certainly can be. Bees can be handled at any time, even during a dearth of honey. We use an inner wood cover, generally known as a honey board. This when bees are apt to rob is much better than the old time quilt. We carefully loosen the honey board by prying it up using small puffs of smoke while doing so. We then cover the hive with a clean cloth and take out an outside frame which we quickly cover so no bees can get at it. We will not take more space except to say—keep all parts of the brood frames covered as fast as you return them to the hive. If bees start giving trouble at the entrance drop some wet grass in front. Water takes the fight out of bees. On reaching an out apiary we have stopped bees robbing with a hand spraying pump.

Hay Fever

More and more people are coming to us for honey to be used as a cure for hay fever. One thing we hear little about is the claim that goldenrod is a prolific source of hay fever. The modern schools of medicine say that the granules of pollen from goldenrod are too coarse and large to give any trouble; and are not the cause of irritation. Only by direct contact can they have any effect on people not immune. Who smells anyway for perfume from goldenrod?

Poorest in 50 Years

The honey crop in Ontario can best be described as the poorest in 50 years, many apiaries giving absolutely no surplus.

Ridgway, Ont.

Editorials

Save Bits of Wax Some beekeepers, especially novices, may not realize the importance of saving every particle of wax during the season. Bits of burr comb should be salvaged as colonies are worked. It pays to have on hand a ten-pound friction top pail with a cover, into which small pieces of wax may be collected each day. At the close of the season one will be amazed at the quantity of beeswax it is possible to save, which otherwise might be lost.

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Queens Not Mating During Chilly Weather During the early part of September there was a spell of chilly weather during which worker bees were scarcely able to fly, much less drones and queens. During this cool weather our queen breeder, Mr. Mell Pritchard, had a big lot of queens in mating boxes that did not mate on schedule time for the good reason that neither they nor the drones could fly.

This same situation may confront many of the large queen breeders of the southern states in the spring. A spell of chilly weather will come on even in the far south and there may be thousands of virgin queens ready to mate but cannot because of the cold weather.

There is some question whether queens delayed in mating beyond the normal time are as good as normal queens mated at the proper age. It seems safe to assume that many of the queens delayed in mating develop into drone layers or are superseded.

Surely bad weather is the queen breeder's worst enemy and even with this handicap the poor chap is blamed because he can't fill orders promptly.

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Winter Top Entrances Furnish Needed Ventilation The senior editor has either been reading the bee journals or writing material for bee journals for over sixty years. Often has he heard A. I. Root, the founder of this journal, talk with Dr. C. C. Miller, G. M. Doolittle and L. L. Langstroth about how strange it was that bees in box hives would winter successfully during a very cold period when there were holes through the top of the hives, and that some colonies in well-packed hives, during that same period in the same winter, with no upper ventilation, would die.

It has been observed over and over since, how some colonies in box hives with holes all through the top would winter when other bees well packed would die outright or be so weak in the spring as to be of little value.

Again, A. I. Root once remarked to the writer that it was strange how he had to buy bees out of box hives to replace the loss in his modern, double-walled, two-story, chaff-packed hives. This was before the days of package bees. And yet, during all these years intervening, he and we have paid very little attention to top ventilation. It is only within late years that there has been a discussion of winter top entrances, or ventilation directed to the top of the cluster to carry away the excess moisture.

Referring again to the old box hive with holes all through the top, it should be remembered that the honey was never taken away from the brood chamber. The combs are not interchanged and the winter nest was not disturbed. Molesting the arrangement of combs in brood chambers, especially late in the season, may be one of the prime causes of winter losses.

Almost correlated to this, we have noticed that when there were upward absorbents, the cushions would be wet. These wet cushions were worse than useless. Apparently they would have been dry if there had been upward ventilation so that the excess moisture could have been carried off as fast as it accumulated.

Some claim that if there is sufficient packing, moisture will not accumulate; but here again is danger that the inside of an excessively packed hive remains cold during a warm spell. If the sun's heat during such a warm spell can reach the cluster in a moderately packed hive, the cluster will move over to a fresh supply of honey. When there is too much packing the outside temperature during the warm spell does not warm the inside of the hive surrounding the cluster and

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hence the bees may not be able to move on to fresh honey and may die.

The winter top entrances are still in the experimental stage. There is much that we do not know as yet, and it will be well to experiment very carefully, comparing colonies of equal strength in hives with top entrances with other colonies of the same strength with bottom ventilation.

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Conditions for Wintering Bees As a rule bees are in better condition for winter following a good season than they are following a poor season, because colonies are more populous, due to heavy brood-rearing, and stores are more abundant, provided beekeepers do not extract too closely.

Reports received from over the country indicate spotted conditions. In some regions the summer honey flow was a complete failure, but fortunately a fall flow filled up the hives for winter. In other regions the fall flow was a failure and unless considerable feeding is done there is likely to be heavy winter losses.

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Modern Hives and Faulty Methods May Spread AFB It is easy to understand how AFB might be spread where movable-frame hives are extensively used, especially in the hands of careless beekeepers and where disease is prevalent. There is bound to be some interchange of combs. In the old skep, log gum or box hive this does not occur. In the modern method of extracting, the combs are hauled into the extracting plant, and after being extracted, may go back into other hives.

Dr. W. E. Dunham, Bee Extension Expert, Ohio State University, has been emphasizing the importance of putting combs when extracted, back into the same hive. Most commercial beekeepers feel that this would involve so much work that it would make the product cost too much. According to Dr. Dunham, if the right system is used, there will be no additional cost. Prof. Russell H. Kelty, instructor in beekeeping at State College, Michigan, believes that beekeepers should avoid, as much as possible, the interchange of combs, especially during the period of extracting. The question is,—can this be done without adding expense?

After all is said and done, it is practically impossible in extracting on a commercial scale to keep combs and frames supposedly free from disease, from being smeared with honey from hives with combs of an unknown history, when all of these combs are extracted together in a large extractor. This difficulty seems insurmountable, because it would be impracticable to extract the honey from one set of combs and then wash the extractor before extracting another set. Many beekeepers would want to go out of business if they had to go to all of this trouble.

In our opinion, the real danger in spreading AFB is the tendency on the part of some beekeepers, through carelessness or lack of regular systematic inspection, to permit disease to develop in their apiaries to the point where a colony dies of disease and is robbed out. The time to stop the spread of AFB is the day it is found. Burn diseased colonies on the spot immediately. Don't harbor disease.

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The Importance of Pollen It is not uncommon to receive letters from beekeepers who wish to know how to remove pollen from pollen-clogged combs. It used to be thought that pollen was detrimental to good wintering because it caused dysentery. Experiments conducted by H. F. Wilson and C. W. Roe recorded in Gleanings, November, 1929, pages 704-706, indicate that pollen does not cause dysentery and is not harmful to adult bees.

Some recent work done by C. L. Farrar, of the Intermountain Bee Culture Laboratory at Laramie, points to the importance of an abundance of pollen in combs on which bees are wintered. Experiments showed that the colonies with the most pollen in the fall were the strongest in bees the following spring. See article pages 276-278 of May, 1934, Gleanings, entitled "Bees Must Have Pollen". Mr. F. E. Todd of Davis, California, who, by the way, has worked with Mr. Farrar on pollen, said recently that approximately one pound of pollen is required to produce one pound of bees.

We have frequently observed that populous colonies with seemingly an over-abundance of pollen in the fall did not appear to have any surplus of pollen the following June. And so, an abundance of pollen in combs is an advantage and beekeepers need not worry about removing it from combs. The bees will use it to advantage.

Exodus of Beekeepers to the Southland

Horace Greeley once said, "Go West, young man". If he were living today he would change that slogan and say, "Go South, young man and enjoy the sunshine during the winter; and come back North in the spring feeling that he had found the "Fountain of Eternal Youth' as in the days of Ponce de Leon."

Going South by trailer

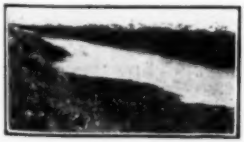
As a matter of fact, many northern beekeepers are spending the winters in the South. Some go to South Carolina, Georgia or Florida, others go to Alabama, Louisiana or Texas. Many go equipped with gun and rod to spend a real vacation of several months along the rivers, lakes and bays, where the country is almost as wild as it was when Columbus discovered America and where game of all kinds and fish can be had.

Saw palmetto of Florida

Beekeepers in the cold, cold North, where there are practically six months of winter, cannot do much of anything in their line, unless it is to bottle and sell honey. But few are expert enough to do that, so they argue why not take the fliver and a trailer; take along the wife and children, park along side of some stream, lake or bay, and then say, "I've worked hard all summer, I need a rest; now wife and I and the children will enjoy ourselves in God's sunshine".

Characteristic Florida

We have received many letters asking where to go. If one wishes to raise package bees, he had better stop in Georgia, Alabama or Louisiana, hook up with some beekeeper, buy bees in old log skeps and transfer them to modern hives. Then next spring, shake into packages and haul the bees home to build up weak colonies or put them into new hives with full frames of foundation.



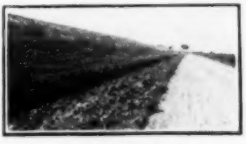
In the Everglades of Fla.

There are some beekeepers who wish to go to a dry climate. To all such we would say, "Go to Texas, by all means". Usually an ideal climate will be found in or near San Antonio, Texas. If one wishes to go to a veritable "Garden of Eden", let him go to what is known as the "Valley", taking in Southeastern Texas. Some of this Valley is still unimproved and looks as wild as any country can look. Go a little further, and you will see palms, fig trees, orange trees and some of the most wonderful country you ever saw. The orange and grapefruit business has grown to enormous proportions. Actually, the "Valley", so called, is shipping Northward **hundreds of thousands of cars of grapefruit and oranges.** Those who desire a dry, warm, beautiful climate, will find Southeastern Texas an ideal spot.

Dr. W. Whitcomb, La.

J. W. Newton and son

We would advise no one to go to any of the Southern States unless he writes in advance; tells what climate he wants; what conditions would meet his pleasure; and there are no people who can give any better advice than the State Bee Inspectors of the several States named. For South Carolina, consult E. S. Prevost or J. A. Berly, both of Clemson College, South Carolina. For Florida, consult R. E. Foster, State Bee Inspector, at Gainesville, Florida. For Alabama, get in touch with Thomas Atchison, of Montgomery, Alabama. For Louisiana, consult Professor W. E. Anderson at Baton Rouge. For Texas, consult Dr. F. L. Thomas, College Station, or Dr. H. B. Parks, San Antonio, Texas.



Clover on the levee, La.

Unfortunately the large majority of Northern beekeepers find it impossible to winter in the South. Many have children in school and business connections that tie them down. Those who are free should by all means consider going South for the winter.

Garden of Eden, Texas

From North, East, West and South

NORTHERN CALIFORNIA, Oct. 2.

Weather: There is little to say of our weather. After a long dry summer we begin at this time to look and wish for the first fall rain.

In 1936 it did not come till the very last of the year. We are earnestly hoping it will come earlier this year.

Honey Crop: The honey flow is practically over in all sections of Northern California and bees are going into winter quarters in better condition than last year. The hot weather shortened the thistle crop, and blue curl failed to come up to the expectation of the beekeepers in most sections. The yield of honeydew in the Sierras is also far below the average.

Miscellaneous: Honey exhibits at the various fairs have been larger and better than ever before. This is one of the bright spots in the entire honey picture. Another encouraging thing is the interest beekeepers are taking in the many county and regional meetings that are being held in preparation for the State convention at Fresno, November 15, 16, 17.

This is written far from California where for the past three months we have visited some of the important honey producing sections of the U. S.

The boys at home have been kind enough to send us notes on conditions in California and we are obliged to conclude that bad as conditions are in California, there are other places where they are worse.

This year, as everyone knows, advance information was broadcast to the effect that there would be a tremendous orange crop. The big crop did not materialize. The first offers for orange honey were ridiculously low. Then came the information that the sage crop would be the biggest in years. This crop was light and sage honey prices were lower than last year as a result. Then wild buckwheat was going to produce several hundred thousand cans and just swamp the buyers and fill their warehouses to overflowing. Buckwheat was even more spotted than the orange and sage. By that time many distress lots of honey had been sold and the price set considerably under that of last year. One rarely hears of a sale made at a reasonable figure. The margin between the lowest and best grades of honey has narrowed to a point where there is little encouragement for the producers to process his honey in the proper manner.

This is making some of our more business-like beekeepers consider getting together and try to find a way to solve their problems. In fact, some are placing their honey in bonded warehouses. They are even buying up some of the distress lots of honey to get them off the market. Every day we see more and more argument in favor of organization.

This is a timely subject for our coming convention at Fresno, November 15, 16, 17.—Cary W. Hartman, Oakland, Calif.

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SOUTHERN CALIFORNIA, Oct. 4.

Weather: Southern California waited until September to have some of its hottest weather.

Very few localities furnished honey of any consequence. Buckwheat continued to bloom here and there where the ground was moist and in some favored sections blue curl gave some honey. All in all bees did well to hold their weight during the month.

The unusually heavy rainfall of last winter is certain to have a favorable effect on the coming season. Some of the moisture still remains in the ground and even should the rainfall be lighter our prospects for a crop should be as good or better than we had this year.

Honey Crop: We disagree just a little from friend Hartman on where the highest average crops will be found. Not the fellow who fed sugar, but the fellow who had strong colonies with abundance of natural stores is the fellow who made the big average per colony down our way. Strong colonies all the time are the winners. As

for ourselves we hope that we will never have to feed any more sugar.

Prices: Prices are not satisfactory. With a clean-up of the old crop, and a half crop reported for most of the country something better than last year's prices should be realized. Sales are slow and demand not at all brisk. Prices are possibly ⅛c over one month ago.

Miscellaneous: All the reporters for this department seem to be pretty well agreed on one thing and that is, the honey crop has turned out after the returns are all in about fifty per cent of early estimates.

If prices would only increase enough to make up for the shortage all would be happy. About the year of 1918 when prices were three and four times the prices paid producers today everybody seemed to get along and be happy and have money for all their needs.

A friend of ours has for over twenty years been gathering together and building up an apiary until he has an excellent outfit of 1000 colonies. Now he is wearied and no longer feels equal to the task of carrying on. To cash in on an outfit of his size is not easy. And all things considered where is there a better investment? Three, four, or five years and the returns will pay for the outfit. After forty years we feel that the prospects for the bee business are as good as they ever were.

Evidently our state law on branding bee equipment is having a good effect. One man has been fined for removing brands, Now that we can identify equipment little trouble should be experienced in the stealing of equipment.—L. L. Andrews, Corona, Calif.

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VANCOUVER ISLAND, October 5.

Weather: After a very late and cold spring the weather on Vancouver Island was very hot in June, July and August, with the exception of a heavy rainfall in each of these months accompanied by a short cold snap, both of which are most unusual here. Rain in these months is more or less of an asset as it lengthens the life of the clover and all summer growth, and instead of dried-up pastures in August the bees were still busy.

Honey Crop: In most districts there has been an average surplus. In some places the rain interfered with the flow and in others augmented it, but it is yet too early to state definitely what the Island crop is. The report in the Canadian Bee Journal mentioned in October Gleanings of a special bumper crop for B. C. has yet to be justified. If honey already stored in July was more than the whole of last season's crop we shall indeed do well, but we have still to find that out, and no doubt another month will decide when all reports are in hand.

Miscellaneous: There is a growing tendency these last few years to move colonies from one location to another to secure a second crop. It is reported that 400 colonies were moved up to the fireweed district at Cowichan Lake this year. Last year this caused disastrous results in the spread of foulbrood, but so far this menace has not been repeated.

Packages have built up exceptionally well and given good results. The beekeeping industry is growing fast and were it not for imported honey which for some unknown reason sells for less here than in Toronto, notwithstanding the freight, the honey industry would be a very satisfactory asset in the Province.

There seems to have been a decided epidemic of swarming this year. Notwithstanding young queens, plenty of super room, and expert handling, swarms have been the order of the day, so there is some determining factor known only to the bees, which we have not yet discovered. This swarming menace spoiled many rosy prospects and it is our belief that so much nectar was brought in simultaneously it would have eased matters if single frames had been removed as soon as sealed and replaced after extraction instead of waiting for the full super. The bees were too optimistic and founded too many colonies based on results which were not lasting.

In some parts bears have been a menace and anyone who has experienced this nuisance knows what a mess Bruin can make of a prosperous apiary over-night. — Florence A. Greenwood, Duncan, Vancouver Island.

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IDAHO, October 7.

Weather: The summer here has gone from one extreme to another. On July 4 the government thermometer registered 107, which was the hottest day of the summer; on August 1 the temperature dropped to near freezing point, with frost reported in some localities. However, our first killing frost came about September

15. We have had a dry summer and fall, but sufficient irrigating water throughout the season for most sections.

Honey Crop: This makes the fourth year for this section of the state for a below normal crop. Some report from 25 to 100 pounds average, some sections report somewhat larger yield, but for the state as a whole the crop will be far below earlier expectations. The first crop of alfalfa yielded very good where colonies were strong enough but the larger number were not of sufficient strength to store any surplus. The second crop from which we expect our main flow started yielding about July 18 and lasted for about 10 or 12 days when we had a cool spell which stopped the flow entirely. The clovers didn't seem to yield any. Bees located on the Oregon side of Snake River show an entirely different picture with normal crops, and with the flow lasting up until killing frost.

Miscellaneous: Bees are going into winter quarters in excellent shape with lots of bees. Local demand for honey is very good. Some stores report pails are moving better than usual. The demand for comb honey is good as usual with no comb honey to supply the demand. However, what little there is has retailed at 20 cents for No. 1 comb. The price to the retail stores for this grade is $3.50 a case wrapped. Most stores are somewhat reluctant to pay this price. If we can keep this price established no doubt more comb honey will be raised in the future.—A. D. Wood, Boise, Idaho.

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OREGON, October 2.

Weather: During the past two months, there has been very little rain in Oregon. This, however, is quite the usual thing for August and September. However, occasional showers may be experienced, and some seasons there is considerable rain falling during September. These rains are of comparatively little significance from the standpoint of honey production in this section. Our rainy season is likely to start any time during October and November in an intermittent way.

Market: The honey market seems to be strong but with little change in prices. Honey is moving well in the retail markets, probably due to the fact that more people this year have pay envelopes large enough to warrent buying some extra sweets.

Crop Report: The latest reports from the fireweed area indicate that generally speaking, there was a much shorter fireweed crop than was expected early in the season. This apparently was due in part, at least, to some unknown factor affecting the brood in June shortly preceding the beginning of the fireweed flow. Some beekeepers report rather severe death of brood from this cause, whatever it was. Apparently it was not disease. It had more the appearance of some type of poisoning, but so far, any possible source of poisoning has not been found. It has been suggested by some that it might be a shortage of pollen. In the Willamette Valley the honey flow this summer was about a month later, on the average, than normally, but the honey was of high quality and was the largest in quantity that we have had for some time. Reports from eastern Oregon and other irrigated districts indicate that the crop is below normal.

Meetings: Dates for the Oregon State Beekeepers' Association have finally been decided upon. We are now planning on having the Association meeting at Corvallis, in connection with the State College, on Friday and Saturday following Thanksgiving Day. This will make the dates of the meeting November 26 and 27. Plans are being developed to make this more or less in the nature of a short course to be combined with a brief business meeting by the Association. We are looking forward to a much larger attendance than usual at this meeting, especially from the more southern parts of western Oregon.

Research: Mr. George H. Vansell, and Mr. Frank Todd of the U. S. Bee Culture Laboratory at Davis, California, recently visited Oregon and checked over colonies which are being utilized in connection with some pollen storage studies. Preliminary results from pollen storage studies carried on last year indicate that pollen is a much more important winter food for bees than we have formerly believed. The results of these studies will be available some time in the near future. We might say, however, at this time that the production from colonies with an over-supply of pollen was over twice that of colonies with

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an under-supply of pollen. A similar set of experimental colonies will be carried through this coming year, to further study the relationship of pollen storage to production. Similar checks are being made in other sections of the state.

The writer spent a month studying honey plants in the fireweed areas of northwestern Oregon with special attention to nectar concentrations. Some very interesting results were secured, showing a close relationship between nectar concentrations and humidity at different times during the day. These results will also be available before long.—H. A. Scullen, Corvallis, Oregon.

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UTAH, October 4.

Weather: Fall weather is here. Snow recently fell on the mountains and frost everywhere definitely stopped the honey flow. In the lower valleys beekeepers are making their "clean up" rounds, while in the higher levels some bees are already packed for winter. According to a recent report of the Commissioner of Irrigation, precipitation for the last month has been 95% of normal, while the record for the year is about normal in central Utah.

Honey Crop: The honey crop over the state except in a very few places is decidedly short. Some county inspectors have reported almost a total failure, but in no place is it thought to fall short of food requirements for wintering the bees, if the beekeepers will have it in the hives. It is conservatively estimated that the crop for the State will not exceed 50% of normal.

The causes contributing to the shortage are varied and to some extent unknown. A late spring was the first factor, then in some sections of the South bees were hard hit by loco poison. The alfalfa weevil and other insects are blamed by some for the failure of alfalfa to produce a full crop. Unusually intermittent rains at the busiest time of the season were thought by some to be to blame.

Honey Prices: Until now honey prices have remained about the same for a full year, but it is reported that prices to the local groceries will be advanced 10% on October 4. With so general a shortage of honey in the state, it would seem that prices would be far above their present level, but the chain stores manage in some way to lay in an early stock of cheap honey; the price gets fixed, and it is difficult to lift it up.

Since the failure of the Mountain States Honey Producers' Association, it has been impossible to get the beekeepers together in any kind of marketing organization. Every man goes his own way, getting whatever price he can for his product. This probably accounts, in part, for the low prices that now prevail.

Due to crop failure for two or more consecutive years, beekeepers in some of the formerly heavy producing centers, are becoming discouraged and it is doubtful if they will give their colonies the proper winter care. —W. H. Hendricks, Salt Lake City, Utah.

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ARIZONA, September 30.

Weather: There was considerable rainfall over the state during August with fair rains through September. At Nogales in Southern Arizona the rainfall reached eight inches during August. These rains have brought up enough fall flowers for bees to fill up well for winter. This applies to the desert and mountain locations. The weather has been about as warm through September as August. However, the past few nights have turned cooler.

Honey Crop: There is a definite shortage of white and water white mesquite and catsclaw honey here this season, the honey flow from this source being short or below normal. Several reported the flow lasted about ten days. The cotton yield seems to have been about normal. I believe there was more cotton honey this season than any other grade produced. According to Government reports there was far less long staple cotton planted this season than last. The cotton honey flow is practically over at this date.

Honey Market: Some producers who sold their early honey as soon as extracted got last year's prices for it. But for some reason honey has dropped considerable in price. The writer suspects it is an organized effort on the part of the buyers to set the price on the product which is generally unsatisfactory to the producers. Many of the producers feel they should get a price equal to last season and are holding their crop at the

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present time. In the face of a light crop in many areas the producers feel it will be called for at last season's prices before another crop is produced.

Miscellaneous: Bees now are gathering pollen and some honey and should go into winter well supplied. Any commercial producer should know the damage or harm done in robbing a colony too close of its stores in the late fall.—Leslie Wedgworth, Oracle, Ariz.

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VIRGINIA, October 8.

Weather: There has been an abundance of rain this fall. In fact, there has been so much in several sections of Virginia that bees have come to the beginning of winter in a weakened condition. The lack of sufficient stores has prevented the queens from laying as freely as they should have during the cool rainy weather.

Honey Prospects: As I stated above, the improved weather conditions have enabled the strong colonies to store considerable honey from goldenrods and asters. One beekeeper reported an increase of five pounds per day for several days on his scale hive. Bees have been gathering honey from tobacco blooms. In observing the bees in a tobacco field where there were blossoms by the millions I saw bees get a complete load from one blossom. They could do this only if the bloom was swinging downward; and, strange to say on examining this nectar in the blossom, I found it water white and a very mild flavor; not at all bitter, as one would suppose. Clover is looking better than it has for several years. Perhaps it will furnish some honey next year. There has been more German or crimson clover seeded this fall than usually.

Honey Market: There is only about 20 per cent of this year's honey still in the hands of the beekeepers. That could have been moved before now, but the beekeepers seemed in no hurry to sell all of it so early. There was only about 50 per cent of a normal crop this year in Virginia.

Miscellaneous: Much interest is being shown just now in regard to the meeting of the beekeepers in Washington on October 25, 26, and 27. The Virginia beekeepers are very anxious that something can be done at this meeting along the line of Federal Inspection of bees to clear up A.F.B. throughout the United States.—H. W. Weatherford, Vernon Hill, Va.

NEW YORK, October 2.

Weather: The 1937 season is now history so far as the honey crop is concerned. Weather conditions have been unfavorable generally, during both of the major honey flows. While the clover-basswood flow was on, the weather was too wet, and during the buckwheat-goldenrod flow cool weather prevailed. This has resulted in a very short crop throughout most of the state, with some very few local exceptions.

Honey Crop: At this time, October 2, there are a great many wild asters in full bloom in many places, but there has been but one day during the past two weeks when it has been warm enough for bees to work. The temperature at noon today was 54, with cloudy skies. The fall flow has been good enough in much of the territory where we operate, for fairly good colonies to secure plenty for winter stores. Extra good ones have secured a surplus of around fifty to sixty pounds per hive, while sub-normal colonies and most increase have barely made a living and for the most part will not be in condition for wintering. There will no doubt be very heavy losses of this class of bees.

Crop Conditions and Prices: The demand for honey has been very good, considering the competition of a large fruit crop, and prices have been about the same as last year. The honey produced in northern New York has been very fine, and has commanded a premium of about one cent over last year's price. Elsewhere the quality is considerably below that of last year.

Miscellaneous: All vegetation, including the clovers, is in excellent condition. While the high price of clover seed last spring curtailed sowing, thereby limiting acreage, I believe that prospects for another season are as good as we could naturally expect. Prospects generally do not mean much, and we can not tell a thing about next year's crop until it is in the cans. Nevertheless, I like to count my chickens before they hatch; the counting is much better, and if we are disappointed in the hatch, we can keep up our spirits by beginning to count the next expected hatch.—H. M. Myers, Ransomville, N. Y.

FLORIDA, October 4.

Weather: We have had some cool weather for the past week, quite a relief from the heat. Our summer was long and hot, beginning in early May and lasting until the last week in September. We had plenty of rain.

Honey Flow: In northwest Florida too much rain during the summer cut the summer flow short. Here in Central Florida there is very little nectar coming in. In a few days goldenrod and fall plants will be open sufficiently for bees to begin storing again. While a surplus is not expected we hope for enough to supply winter stores and get colonies up to winter strength. Even where colonies have more than enough for winter it is not a bad plan to leave it on the hives and extract in the spring if necessary, as plenty of stores and good queens mean good colonies early next year.

Prices: We .are .disappointed in prices as we expected the same as last season and possibly a little above as the crop was short over the entire state. Local buyers offer from ½ to ¾ cents per pound less than last year for the same and better grades of honey. One man reported that one lot of good grade of mangrove honey was bought for three cents per pound. However, those who looked around before selling were able to get a fair price for mangrove and palmetto around five cents f.o.b. shipping point.

Miscellaneous: The entire year has been a disappointment in most sections of the state. Our first surplus crop is from orange and this commenced blooming in January, way ahead of the usual time and then bad weather began which caused almost a complete failure over the entire state. The palmetto was promising but was slow about coming into bloom. After the long period between orange and palmetto bees were mighty weak and some colonies starved. Feeding was practiced every day in queen-rearing yards.

The great tupelo producing section in northwest Florida was hit hard. A very light crop was secured and in some sections no honey at all. My opinion of the cause of this failure was the tropical storm of July, 1936. These storms strip the foliage from trees and plants. Then they take on another growth during the late summer and fall (the titi could be seen blooming in January) naturally causing them not to put on the growth in spring that they would do if conditions were normal. We haven't had a good crop here for several years. Whether this condition has come to stay remains to be seen. We are not slowing down—just hoping for better luck next time.—N. Forehand, Deland, Fla.

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ALABAMA, October 7.

Weather: Weather conditions have been far from ideal with more rain than was needed and a number of days when the bees could do nothing because a light drizzle fell all day. Temperatures to this date have been high.

Bees have been working bitterweed and boneset and have shown a slight increase in stores for the past six weeks. Aster is coming into bloom but it will not yield till the weather is cooler. If the weather turns cold gradually it should yield well, but it is possible for a freeze to come with the first cooler weather. If this happens we will miss the aster altogether.

Honey Crop: Due to the failure of the local fruit crop the demand for honey is the best in many years and as usual there is no local supply. The crop in other sections is so short that it is doubtful if local beekeepers can secure enough honey to supply the demand.

Miscellaneous: Colonies were not in as good condition in August as they were at the same time in 1936 but they have gradually improved in both bees and stores till they are in much better condition now than they were at this time last season. Practically all colonies have ample stores for winter.

The annual meeting of the Alabama Beekeepers' Association was held at the Thomas Jefferson Hotel in Birmingham, September, 30. Mr. M. G. Dadant was the principal speaker. The attendance was good and the program very interesting. Unfortunately very few of the larger shippers of packages and queens attended. President Robinson has called a second meeting to be held at the Jefferson Davis Hotel in Montgomery on Friday, October 15, for the purpose of discussing the Marketing Agreement and other problems connected with

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the shipping of package bees and queens.

The Alabama Power Co. sponsored an exhibit by the American Honey Institute at the Alabama State Fair in Birmingham. In a modern kitchen Mrs. Jensen assisted by two home economists from the Power Co. baked hundreds of pounds of ham flavored with honey and baked many articles with honey and distributed samples and recipes to interested crowds. There were six exhibitors of bees and honey. These were the best ever shown at a fair in Alabama and it was very interesting to watch the crowds and answer their questions about bees and honey. The interest in bees and honey has certainly increased in that section.—J. M. Cutts, Montgomery, Ala.

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ONTARIO, October 6.

Weather: September and October to date have been quite dry and the land in most cases is too hard for the farmers to do much plowing. But with the heavy rainfall late in August sufficient moisture came to care for the clovers and other vegetation and all clover seeded this spring has a good top for winter protection.

Honey Crop: In the last issue of Gleanings I stated that the crop of white honey in Ontario was VERY light, basing my estimate on reports received from many parts of the Province, and just three days after that was written, Dr. E. J. Dyce, the Provincial Apiarist at Guelph, wrote me saying among other things, that he estimated the white honey crop at not more than one-third of a normal yield. As to the buckwheat crop, it is also light in most localities with a good yield in a few parts of western Ontario and in counties northeast of Toronto. We yet have honey to remove from two apiaries as cool weather has held us up in the work. Feeding is general among beekeepers, and in some sections where brood-rearing stopped early owing to early cessation of the honey flow, most of the feeding is done. We are not more than nicely started, but with over 800 feeders (ten-pound pails) a lot of colonies are soon attended to.

Prices: Demand for honey is fair considering the large crops of fruit and vegetables. Prices are firm if not higher than a month ago. Recently I made a call at several wholesalers in Toronto and found almost no honey. One firm had some Quebec honey of 1936 crop and asked 10 cents per pound in sixties. So if the poor crop of the present season does nothing else it will clean up all honey, leaving a bare market for the good crop we are all hoping for in 1938.

Miscellaneous: As many know, we are heretics insofar as appreciating all the so-called benefits of the two-body brood nest for all seasons of the year are concerned. We have a few colonies this season that have two full-depth bodies and in the same apiary the bulk of colonies are in single-brood chamber 10-frame L. hives. In looking them over last week I marked most of the single-story hives for four ten-pound pails of food. Those with two full-depth bodies have the upper story full of honey but absolutely no honey in the lower story.

I will have to feed the two-story colonies at least two pails of syrup each, and I feel sure that the single-story colonies made heavy with stores will winter uniformly better than the two-story colonies with the major part of lower brood chamber bare of stores and offering unlimited space for winter brood-rearing at a time when brood-rearing is a liability instead of an asset.

When we consider all the work of handling an extra body of honey every time the supers are manipulated during summer months, the extra equipment necessary with two full-depth bodies instead of one, not to mention the great weight of the two-story hive when moving, etc., I for one fail to see the advantages claimed by users of the double hive. Some are, I believe, using the two full-depth bodies as a brood nest during the honey season. One thing I feel sure of is that such colonies will not on the average store as much surplus as when queens are confined to single brood chambers.

In the last issue of Gleanings the editor mentions the fact that the four-colony winter case is going out of use rapidly. We have about 100 colonies in these cases for winter and we have never liked them because of reasons given by the editor. Another phase of wintering about which so much was said a few years ago, was the great amount of packing necessary for ideal outside wintering of bees.

Certain authorities proved beyond question, theoretically, at least, that even the fronts of the hives where entrances were located, should have so much packing that porters were necessary to conduct the workers through the tunnels leading from outdoors to the brood nest. And to-day the tendency among the majority of commercial beekeepers is to reduce the amount of packing rather than to increase it. This is abundantly proven by the fact mentioned by the editor that many are now simply protecting the hives by paper. Personally, we prefer a single case with the hive either permanently packed or with hives removable, but we wonder how such positive reasons were given by our experts for advising unlimited packing for bees wintered outdoors. —J. L. Byer, Markham, Ont.

A CONFAB

(Continued from page 673)

purity. We extract our main crop August 1, it's warmer then than later, extracting is easier, storage room for supers easier to ventilate, and carbolic odor disappears sooner. We find that the phenol gas congeals, or hangs to combs when they are cool and will not ventilate away unless combs have warm ventilation.

We have never had a complaint of phenol taste or odor from our local honey consumers who bought about 1200 pounds of this year's crop.

J. H. Jamison,
Ada, Ohio

In suggesting topics for the future of our "Confab" it would seem that there are at least three that could be considered profitably:

(1) Top vs. bottom winter hive entrances, or both.

(2) Killing off colonies in the North in the fall and stocking the hives with packages in the spring.

(3) The cause and cure for early supersedure of queens.

Much could be said regarding topic No. 1 other than has appeared in recent issues of this journal so here is an opportunity for you beekeepers to express your opinions and relate actual experiences along this line.

Regarding No. 2 a discussion of this topic is perhaps limited to beekeepers in the North. However, there is much to be said on both sides of the question.

No. 3 is perhaps one of the most vital problems in our industry today. Beekeepers who buy queens have a right to expect good prolific queens.

If it is a fact that a considerable percentage of queens received with packages or through the mails are superseded soon after being introduced, the cause must be determined and the condition remedied.

Mr. Mel Pritchard, a queen-breeder of long experience, has something to say on this topic:

An editorial in the May, 1937 issue of Gleanings in Bee Culture quotes Mr. T. W. Burleson as saying that he is sure that the supersedure of queens that come with package bees is caused by the negligence of the receiver rather than carelessness on the part of the shipper.

People have been coming to our queen-yard, every season, to get queens to replace those that came with packages and many of these beekeepers report that those queens received with the packages layed normally for a few days then failed or disappeared.

If they were injured by the receiver it would seem that they would not have started laying in a normal way.

I think they are lacking in vitality, and it is up to us queen-breeders to find the cause of this deficiency. There are times when my queens do not seem to develop as completely as I intend to have them. They may make good queens but they are not the better kind we are striving to produce. I think all queen-breeders have this same experience. I put forth every effort at my command to find why this happens, and I usually find some reason for it. One condition in particular brings this result. That is hot, sultry weather. When the bees cluster out on the fronts of the hives, for hours at a time, even under the shade of the basswood trees, I find that the queen-cells are nearly deserted. The queen larvae are fed about five days and during this time they need to be fed continuously.

If you queen breeders will endeavor to find some reason for this deficiency and report your findings for publication in "Confab" this council should help us to eliminate undue early supersedure of queens.

M. T. Pritchard,
Medina, Ohio

Here is a chance for you queen-breeders to get in on this discussion.

(To be continued)

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Heads of Grain from Different Fields

Laying Worker Colonies

It doesn't pay to try to requeen a laying worker colony or one in which all of the brood has emerged. The practical thing to do is to unite it with a queenright colony, using the newspaper method. To do this, remove the cover and place over the good colony a single sheet of newspaper. Then take away the bottom-board from the queenless hive and set this hive on the top of the other. The paper will soon be eaten away and the bees will go together without fighting.—E. S. Miller, Valparaiso, Ind.

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An Idea for Swarm Control

This illustration of a very cleverly designed hive shows the model hive with all parts in position. Mr. Richard B. Mitchell, the maker of the hive, is a resident of Laurel, Delaware, and is a very enthusiastic beekeeper. He constructed the model hive from a standard hive body, a shallow super, and scraps of wood and roofing material. The hive is painted in very beautiful colors, and for all the world looks like a model house. This is Mr. Mitchell's suggestion for swarm control—just make the hive so attractive that the bees won't want to leave home.—Paul L. Rice, Newark, Delaware.

Bees would be foolish to swarm and leave this attractive home.

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My First Swarm

In the afternoon of a July day, about 15 years ago, I was unloading a load of hay when I heard a noise resembling a sudden wind storm. I told my wife who was driving the horses to hurry and close the doors as I was afraid a wind was coming up. The noise passed over my head, and as I looked I saw the air was full of bees. They settled on a brace holding the corner post of the fence in the barnyard. They formed a large cone-shaped mass not more than a foot and a half from the ground. I got an old bee hive with some empty frames in it and dropped the bees in front of it. It was almost dark before they were all in the hive. I thought then all I would have to do was to take the honey away from them in two or three weeks and they would make some more. The next day I told an old beekeeper I had captured a swarm. He said it was late in the season and asked if I had given them any foundation. I said, "Yes, I have put the hive on a couple of pieces of solid planks". For some reason (unknown to me then) he laughed heartily.—F. W. Armstrong, Hewelton, N. Y.

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How I Saved About Six Dollars

The other day I went to my garage and shop where I had my cappings stored and noticed many wax moths in the cappings. Something had to be done at once. Here was my cure; I had a tank which held four buckets of water. I put in a couple of buckets of water then a couple buckets of cappings setting all on a stove in the shop. About noon I found the fire burning slowly and everything lovely, so went in to dinner. After I sat down to the table I smelled smoke. I ran right outside. The result is a ruined shop, garage, honey and the usual amount of tools and other equipment, but I did save the six dollars I

would have had to pay to have the wax rendered. If I had done it out-of-doors where it should have been I would have saved the wax also.—Spencer Baird, Fayetteville, N. Y.

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Six Colonies Produce 1420 Pounds

I am a back-lot beekeeper and have kept bees for four years. I started with two colonies and now have fourteen which have paid me well. My equipment is factory made as I like to know what my bees are doing and if they were not in modern hives I could not examine them. I run the six colonies I had in 1934 for chunk honey and those six colonies produced 1420 pounds of surplus honey, which I sold for 15c per pound. My bees are Italian with good young queens. My best colony in 1934 produced 400 pounds of chunk honey. I live in central western Indiana on the banks of the Wabash River. Our main honey flow starts about June 10, with white sweet clover, then in the fall we have blue vine, heartsease and Spanish needle in the river bottoms.—James Peveler, Indiana.

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Beekeepers Interested in Flowers and Fruit

I find much of interest in the letters which reach me from beekeepers in the pages of Gleanings, in the department of "North, East, West, and South." It is interesting to know the conditions under which beemen live in different parts of the country, work, and produce a crop of honey. Often I wish they would not confine themselves quite so closely to the bees but tell us a bit of what they do on the side. What flowers they are most interested in and which kinds they grow, and what fruits and vegetables they like best and have most success with.

I have found bee folks pretty well balanced people. While some of you whom I have met only through the columns of bee journals, must be pretty close to specialists, I fancy most of you would enjoy a chat with those who may be interested in things other than bees.

It is difficult to understand a real beekeeper not being interested in flowers and fruits.—O. B. Griffin, Caribou, Maine.

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Gunny Sacks and Tar Paper Packing

The first picture below shows a hive with gunny sacks placed on each side. Three on each side seem to be good insulation for this locality. The sacks must be tied tightly with twine. Several more should be placed over the inner cover right over the bee escape hole.

The second picture shows the hive wrapped in tar paper. Tar paper must be tied tightly with twine or baling wire. This will leave a clean bee yard in spring. When I unpack, which can be quickly done, I find my bees have wintered successfully.—Roy Kalthoff, Waverly, Mo.

Three gunny sacks are placed on each side and tied securely with heavy twine to hold them in place.

Over the gunny sacks is tied tarred paper. A metal cover can be placed on top instead of the paper, if preferred.

Spinster Jane Says:

Autumn is here again, and our big hills are hung with wonderful paintings, more gorgeous and richly colored than any of the great artists' best masterpieces done in oils. Old Mother Nature splashes on the colors lavishly, and we surely enjoy it while the exhibition is on. An artist must sigh with envy, and realize how like a daub his best reproduction of any one of her scenes really is.

The colder weather means it's time for the bees to be snugly ensconced in warm winter quarters, their cupboard shelves, like those of thrifty housewives, filled to capacity for winter, or until a new supply comes again.

Seeing Only Beauty

I was just looking through one of our new public school readers, and read as a sample of poetry, Shakespeare's words on the honey-bees. He calls them "Singing masons, building roofs of gold". Now if I were one of those hard-headed, practical, or rather literal men, I would comment, "Walls of gold would be more appropriate, for whoever heard of masons building roofs!" But Shakespeare was a poet, and dealt with beauty rather than with details. To him those bees were known only as they flew about his flowers, things of beauty and song. Why can we not all be poets, and see only the beauty about us?

Why Do We Keep Bees?

The discussion in the last Gleanings as to why we keep bees, was most interesting, and the first thing I knew, I, too, was pondering the question. Honey Boy had kept them because of his deep interest in them, and incidentally, he expected to make a few dollars on his investment.

Let me sum up my ideas on the reasons for wanting to keep these stinging pests—so most folk describe them. Here they are:

It required only a small outlay to get started, we having all necessary equipment on hand, and everyone knows how unused, perishable, material often deteriorates.

It, to me, is one of the most thrillingly, interesting jobs in the world.

The work is light, easy, and all-absorbing. No time to worry over gossip concerning your neighbor, when your mind is full of bees (not bats!)

We shake off the mechanical monotony of housework, and get a brighter view of life in general.

It means better acquaintance with the out-of-door world, more fresh air and sunshine, consequently, better health.

It gives more thrills than bee stings, both being good for us. What is a pin-prick, anyway!

It gives us a supply of Nature's own best sweet, home-grown, and home-manufactured.

It gives me a larger and surer crop of fruits and vegetables in my garden, also finer flowers. Just listen to another poet:

"And in the phlox, the courteous bees
Are paying duty calls."

Yes, those busy little ladies' attention is necessary in my garden.

Becoming a real honest-to-goodness bee woman, when that great day really comes, means a winter season free to read and study, to write, or travel, and some day when no longer rugged and strong, it would be wonderful to spend a winter in a more congenial climate, during our near-Arctic brand here.

And to be really honest, I'll confess I do think of the results. I do look forward to the dollars to be made from honey. I do expect to capitalize on the money I invest for bees and for abundant clover seed. Those who say they do not go into it to make money, will not refuse to take the "filthy lucre" when it rolls in. It is just good Scotch thrift to keep bees for the money there is in it. It is a paying proposition, but, as in almost every other occupation, there are chances to be taken.

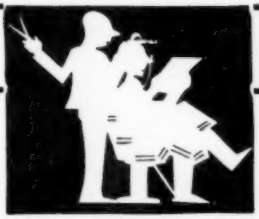
We may be indefatigable in our work and care, yet the weather man, like most other men, is often fickle. We trust him a bit too much, and squash! poof! away go our sweetest dreams!

Something of a Gamble

Beekeeping, with all its uncertainty, is a mighty fine occupation. It

(Continued on page 709)

Just News



At a recent meeting the Missouri State Beekeepers' Association elected officers as follows: Leo R. Bradford, Oregon, Mo., President; George D. Jones, Columbia, Mo., First Vice-President; Dr. William C. Wilson, St. Charles, Mo., Second Vice-President; Reed Bailey, Oregon, Mo., Secretary-Treasurer.

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Early in August J. H. Redfield of the Superior Honey Co., Idaho Falls, Idaho, wrote: "It seems that southern Idaho is in for one of the shortest crops on record. Many beekeepers took off a little honey, but quit extracting on account of the poor flow. There were a few days of fair flow early in July, but only a slow drizzle since then. Many cool, windy and stormy days have had their effect and unless the balance of August deals out warm settled weather it will not be possible to average a can, 60 pounds, per colony. We understand that most of the intermountain states are falling down also, so it is to be hoped that the eastern half of the country will come through with a normal crop."

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The Illinois Beekeepers' Association meeting will be held November 9 and 10, at St. Nicholas Hotel, Springfield, Ill.

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The Annual Meeting of the Ontario Beekeepers' Association will be held in the King Edward Hotel, Toronto, November 23-25. Prof. E. J. Dyce, Secretary and Treasurer of the Association, extends a cordial invitation to beekeepers on both sides of the line.

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The annual meeting of the Iowa Beekeepers' Association will be held at Ames on November 18 and 19 in conjunction with the annual Short Course for beekeepers. These meetings are held with similar meetings of other affiliated organizations of the State Horticultural Society.

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Referring to the sheet put out yearly by the Bureau of Agricultural Economics, Washington, D. C., containing a tabulation of the estimated number of colonies of bees and yield of honey per colony in the U. S., we find that the average per colony production for 1935 was 35 pounds, and for 1936 it was 40 pounds. Data for 1937 is not yet available but we may expect a considerably lower per colony average this year.

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The Oregon State Beekeepers' Association will hold its annual meeting at Corvallis, November 26 and 27. The meetings will be held in the Memorial Union Building, Oregon State College. The business meeting will be combined with a 2-day short course.

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The Fifty-ninth Annual Convention of the Wisconsin Beekeepers' Association will be held at the Municipal Building in Hartford, Wisconsin, on November 4th and 5th. Prof. V. G. Milum, of Champaign, Illinois and E. R. Root of Medina, Ohio, are the out-of-state speakers.

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The annual convention of the California State Beekeepers' Association will be held November 15, 16 and 17 in Fresno.

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The Washington State Beekeepers' Association will hold its Thirty-third annual Convention in Yakima on December 7 and 8. All arrangements for the meeting are in charge of the Yakima County Beekeepers' Association, Robert Immeles, Toppenish, Secretary.

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Following is an excerpt from a letter dated September 14, 1937, from Mrs. E. B. Osborn, Pretoria, North, S. Africa: "We had a good honey crop last year. Our 30 colonies averaged about 130 pounds extracted honey, besides some good sections. We had a very wet season last summer, but we had no autumn rains and now we are well on in spring and haven't had a shower yet. Our apiary is situated in a valley between two ranges of mountains and there are a great number of gum trees. The flavor of our honey has been likened to Scotch heather. We got first prize at the Pretoria show this year".

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PACKING WITH SLATER'S FELT SEALED WITH HOT ASPHALT

I remember a few years ago helping a beekeeper pack his bees with planer shavings and tar paper tied on with string. It was a cold day in November and our hands were almost frozen. I don't relish the job of tying strings on paper cases during cold weather.

While the late Editor of this journal, Mr. George S. Demuth was still with us, he did some experimenting along the line of using hot asphalt instead of strings, for fastening the slater's felt around hives. In fact, Mr. Demuth used this method in packing his bees for at least two years.

A few weeks ago we got together the necessary paraphernalia and packed a few hives using this new method and it certainly works. The accompanying pictures were taken to illustrate the method.

(1) This illustrates a method of melting the asphalt, which, by the way, can be obtained in chunk's at a reasonable price from a company that repairs roofs. A handy container for the asphalt is a five gallon honey can with the top cut out. A wire bale fastened to opposite corners is

(Continued on next page)

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convenient for handling the can. Use twelve bricks for building a fireplace, build a fire, then set the can containing the asphalt on the fire.

(2) Asphalt paper can be purchased in 36 inch rolls at any hardware. Cut off a piece large enough to place under the hive stand so that the edges extend out about 6 inches on sides and ends. The hive stand may be filled with dry forest leaves or planer shavings if desirable, but this is not really necessary.

(3) Place the hive of bees on the hive stand and tack a block of wood 2" wide and 16" long on top of the projecting bottom board (if standard bottom board is used). This forms a tunnel. (This block does not show well in the picture).

(4) Next, cut a piece 8 feet in length from the roll of asphalt paper. This is long enough to make a cylinder with about ten inches of a lap.

(5) This is where the hot asphalt comes in. Lay the paper on the ground, then place a piece of board about a foot wide, and at least 36" long, on and near one end of the roll so that the end folds over the board. Apply hot asphalt liberally, as illustrated. A stick with rags wound around one end can be used for applying the asphalt.

(6) This simply shows how the opposite end of the paper is placed on the hot asphalt.

(7) The paper is pressed down. It sticks instantly.

(8) The cylinder of paper is placed around the hive so that the bottom of the cylinder rests on the ground. The front of the cylinder is cut at the bottom to fit around the front of the hive. A piece of lath is tacked over the paper in front to prevent the packing material from getting into the tunnel at the entrance. The entrance block is put in, using an intermediate opening about 4"x⅜".

(9) Coarse planer shavings or dry forest leaves are then poured into the top of the cylinder and gently tamped down in the sides, between the paper and the hive. Be sure to fill in the corners so as to make a somewhat rectangular rather than cylindrical pack. About six inches of packing is sufficient for the top of the hive.

(10) Fold the top of the paper in.

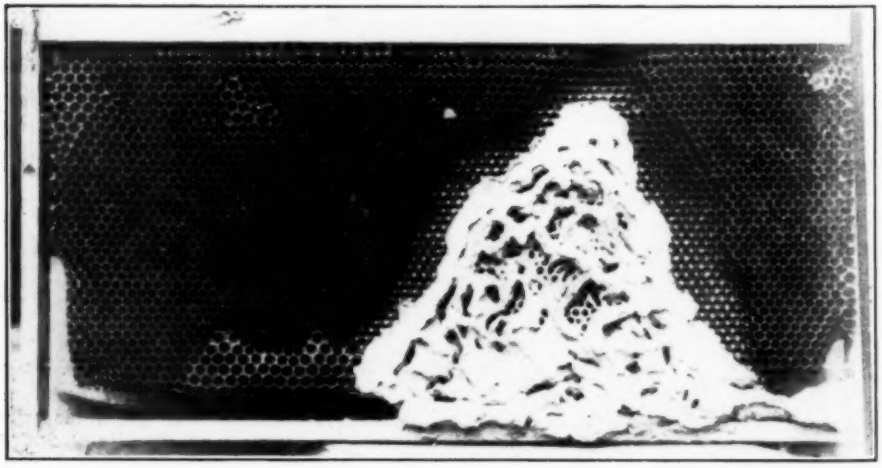
(11) Cut a piece of asphalt paper approximately 24"x28" for the top. Be sure to apply plenty of hot asphalt to this top piece.

(12) Press the top paper down so that it may stick firmly. Be sure to have the crevices waterproof.

(13) The finished product that will stand all kinds of winter weather and keep the bees warm and dry.

A top entrance could doubtless be used with this method of packing by making allowance for a tunnel from the top of the hive through the packing material and paper. However, we have not constructed any such top entrance as yet although we may experiment along this line.

M. J. Deyell



This picture shows a brood comb ruined by termites that built their nest between this outside comb and the side wall of the hive. The nest was removed from inside of the hive and still adheres to the brood comb.

Asked and Answered

Tartaric Acid in Sugar Syrup

Question.—Is it necessary to use tartaric acid in sugar syrup for bees and if so how much should be used?—N. L. Wood, Ind.

Answer.—Tartaric acid in bee syrup is not absolutely necessary, but in our opinion there is an advantage in using it, especially when syrup is fed late in the fall when the weather is cool. The acid retards granulation of the syrup in the combs. Furthermore, the acid prevents granulation of syrup in the feeder cans while the bees are taking the syrup. When tartaric acid is not used in the syrup and when friction-top pails of syrup (with lids of pails perforated) are inverted over the frames, the holes in the lids of the pails may become closed with granules and thus the bees are unable to take the syrup. When acid is used in the syrup granulation does not occur and bees can take the syrup freely. Three-quarters of an ounce of tartaric acid should be used for each 25 pounds of granulated sugar and the acid should be added while the hot syrup is being mixed, two parts of sugar to one part water.

Measuring Tongues and Stomachs of Bees

Question.—Referring to a recent article by J. H. Merrill, Ph.D., appearing in December, 1935, Gleanings, entitled "An Unfinished Symphony", in which Dr. Merrill mentions the measurements of the physical characteristics of honey bees, just how are these measurements made and how can this be applied by a practical beekeeper?—Ewald Kuhne, Germany.

Answer.—I will briefly describe how we obtained the measurements for our data and then I will add how a practical man can make satisfactory measurements. We measured the tongues by mounting them on glass slides and using a micrometer eyepiece. Then we determined the size of the honey stomach and emptied it. After that we weighed on delicate scales the bee together with its tongue and emptied stomach.

An examination of our data shows that there is a direct correlation between the size of the bee and the length of its tongue. Hence there would be no need of making the exact measurements which we made of the tongue because one can always know that the largest bees will have the longest tongues. Of course, it was necessary to do the preparatory weighing and measuring which we did of 6000 individual bees in order to prove this fact.

Now as for the honey stomachs: It is necessary to catch worker bees returning to the hive from a nectar-gathering trip in order to have them with full stomachs. After you catch the bee, hold it in one hand, crushing the head and thorax immediately so as to prevent regurgitation of the nectar which is in the stomach. Then take the bee by its abdomen in the other hand and pull it slowly in opposite directions until the abdomen becomes separated from the thorax. The honey stomach will then be supported at either end by a fine thread between the two portions of the body.

You can tell with the naked eye which bees really have the largest stomachs, but if you want to make certain, then you could determine this by snipping the threads which hold the stomach and dropping the stomach into a graduated tube filled up to the zero point with alcohol or some other substance which has a low surface tension, and then you can arrive at the size of the stomach by noting the increased height of the column of alcohol.

We used a glass flask from a Babcock milk tester. I do not know whether you use these in your country or not, but they are small glass flasks with a stem which consists of a long graduated tube about the size of a lead pencil. I would suggest that if you use alcohol or any other solution that you keep the flask emersed in running water so as not to cause the column of alcohol to rise in the throat of the flask due to expansion caused by the heat of the hand.

It is the amount of nectar which the bees carry in their stomachs, rather than their physical size that chiefly concerns us. The mere possession of a physical characteristic of large stomachs would mean nothing. What we are concerned with is the bee's carrying capacity.—J. H. Merrill, Ph.D., Raynham Center, Mass.

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Moving Bees Short Distance

Question.—I want to move an apiary of 25 colonies about 200 yards from its presen location. In my locality we seldom have a week during the winter that the bees do not fly some. As a rule, they are seldom held in more than three or four days because of cold. When would it be wise to move them this short distance? By such a short move would not the colonies become weakened by returning to the old stand?—D. W. Lockey, North Carolina.

Answer.—It would be feasible for you to move your hives of bees any time during the next two months, even though bees in your vicinity fly every three or four days. So long as you leave nothing in the way of empty hives on the old location, the old bees that might return from the new location to the old location would have no hives to enter and would doubtless return to the new location. A few years ago we moved a large apiary in the spring of the year, a short distance. Many of the old bees returned to the old location after being moved to the new location, but not finding any hives to go into, they soon returned to the new location. If you will do your moving rather late in the evening so that the bees, after being placed on their new location, may have a chance to settle down during the night, they will then work out of their hives gradually the following morning and will doubtless mark their new location.

Honey for Diabetics

Question.—My doctor tells me I have diabetes in a mild form and must eat no sugar or starch. I asked about honey and he said it was just as bad as sugar—no difference. He is a young and "modern" doctor. Just a few days later I read in Capper's Farmer of a hospital in Colorado that used 2000 pounds of honey a year and their diabetic patients ordered more honey of some beekeepers after they returned home from the hospital. What do you think modern doctors would say about it? —H. H. Porter, Wisconsin.

Answer.—The average doctor will tell you that there is no difference between honey and ordinary sugar. The facts are, there is a vast difference. However, not all diabetics can eat honey. A large number do use it in moderate quantities and do not show any sugar in the urine or in the blood. This is a matter of history. We have been selling honey to diabetic people for years, and we find that the best honey for this purpose is tupelo produced in Florida, or mountain sage produced in California. Both of these honeys are high in levulose and low in dextrose. Practically all doctors agree that levulose can be taken by diabetic patients, and therefore a honey that is high in this particular sugar ought to be something that a diabetic can take, provided the disease has not advanced too far. We suggest that you try tupelo honey. We strongly advise you to try a little at first, then a little more if you find it agrees with you. That is, of course, provided you find no sugar either in the blood or urine after using it. Apparently the head men of the American Medical Association seem to be against honey for use in the case of diabetes. While we believe that it is best to err on the safe side of caution, there are a good many physicians in this country and in Europe who are recommending honey in moderate quantities for diabetics. But bear in mind that some diabetics who have only a trace of the disease cannot take honey. Everything depends upon the individual as to how far the disease has advanced and whether or not one has a real case of diabetes.

Removing Queen Excluders During Winter

Question.—When wintering a colony in a two-story hive is it advisable to leave the queen excluder below the food chamber or upper brood chamber during the winter?—J. L. Stover, Ohio.

Answer.—A few years ago we tried leaving the queen excluders under a few food chambers during the winter and this is what happened: The colonies clustered on the combs in the food chambers and the queens being unable to pass through the excluders were left outside of the clusters during the cold weather and were lost. Queen excluders should by all means be removed during the winter months.

Will Alfalfa Replace Sweet Clover?

Question.—What are the relative merits of alfalfa and sweet clover as a hay and pasture crop for farm stock?—L. A. Moxley, Michigan.

Answer.—There is a distinct tendency at present for alfalfa to replace sweet clover. Alfalfa is longer-lived, can be satisfactorily used for hay as well as pasture, requires less lime in the soil, and is in some respects even a better soil-builder. Sweet clover is more easily established in wheat than

alfalfa and remains unsurpassed as a one-year rotation catch crop for soil improvement. As pasture, however, it has the serious defect of dying by August 1 so that some other pasture is needed to supplement it at this critical time. Alfalfa makes a more palatable pasture than sweet clover, as well as being more uniform through the year. It is possible to make hay of the first cutting of alfalfa, when there is frequently an abundance of permanent pasture, and then pasture the alfalfa for the remainder of the season when permanent pasture is short. Such are some of the reasons tending to replace sweet clover with alfalfa.—Prof. C. J. Willard, Professor of Agronomy, Ohio State University, Columbus, Ohio.

Time to Put the Bees in the Cellar

Question.—I am planning to put 50 hives of bees in an underground bee cellar this fall. When is the best time to put the bees away?—J. R. Ziegler, Minnesota.

Answer.—Along about the last week in November there usually come a few bright warm days that permit bees to fly freely. Directly following this warm spell is a good time to put bees in the cellar. A cool day is better than a warm day for moving the bees. Hives should be handled carefully. The entrances of the hives should be left open in the cellar so that dead bees may be carried out of the hives during the winter. The cellar should be absolutely dark and the temperature should range between 40° and 50° F. Colonies should be removed in the spring some time in April when the first early pollen is obtainable.

Dark or Amber Honey—How to Sell it

Question.—Our bees did not get any white honey this year but they did get about a ton of amber-colored honey from fall flowers. It had a good flavor. Do you think I could sell it locally?—J. R. Moore, Pa.

Answer.—By all means, offer it for sale locally. A good way to let people in your locality know you have honey to sell is to put a small classified advertisement in your local paper, offering this honey in any quantity, direct from your honey tank, weighed into containers furnished by your customers. The price must be reasonable, around 10c per pound. Let your prospective customers see and taste the honey before making the purchase. If you give service and good quality honey and run a small advertisement once a month you will find yourself sold out in a short time. A honey sign erected in front of your home, or where the honey is sold, is also essential.

Removing Wax from Clothing

Question.—I have been asked many times how to remove wax from clothes and fingers. A woman beekeeper has sections to scrape and she tells me the wax or bee glue does not wash out of her dresses and wants to know what she can do to get it out.—Mrs. H. E. Greenwood, Wisconsin.

Answer.—Any solvent of beeswax like ether, chloroform, benzine, or Energine, will remove it. Non-explosive cleaning fluids, like carbon tetrachloride, are the safest and they can be obtained at any drug store. In an emergency a piece of blotting paper may be put over the wax and a hot iron or even a hot knife blade pressed on it will make the spot less conspicuous.

Top-Winter Entrance Hive

Question.—I read about top-entrance wintering in Gleanings, but this isn't clear to me. If I close up the bottom entrance and open the top entrance will not the bees fly out of the top entrance and then try to get in the bottom entrance when taking winter flights?—Carl Novak, Ohio.

Answer.—In our opinion, there is a danger of this very thing happening when the bottom entrance is closed. We have never used top winter entrances such as have been described in recent issues of Gleanings, but we have used what might be called the middle front entrance. Such an entrance is made in the middle of the front of the food chamber. This entrance enables the bees to fly easily from the top hive or food chamber instead of being forced to go down through the bottom brood chamber to use the bottom entrance. We leave a very small bottom entrance, about ⅜ x ¾ inch so that the bees that have become accustomed to their regular entrance may use it during winter flights. It seems probable, however, that these bees would eventually find the top entrance and use it, if the bottom entrance were closed. It seems that the top entrance idea is yet in the experimental stage and that some advocate closing the bottom entrance while others leave a small bottom entrance when the top entrance is used.

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Buy and Sell Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate—7 cents per counted word each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in the 15th of month preceding.

HONEY FOR SALE

The reliability of honey sellers is not guaranteed, although strict references are required.

CLOVER HONEY. Sample, 10c. Kenneth Gallant, Meridian, N. Y.

FANCY clover honey, case or quantity. J. Stahlman, Grover Hill, Ohio.

FOR SALE—Extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

HONEY—Light and light amber extracted. F. W. Lesser, Fayetteville, N. Y.

CHOICE CLOVER, 8c; amber, 7c, in new 60's. H. B. Gable, Romulus, N. Y.

CHOICE MICHIGAN clover honey in new 60's. David Running, Filion, Mich.

LIGHT amber honey in 60's, at 7c per pound. Harry Driver, Mill Hall, Pa.

E. D. TOWNSEND & SONS: Michigan clover honey producers, Northstar, Michigan.

FRANK RASMUSSEN, producer of white and amber extracted honey. Greenville, Mich.

CHIICE CLOVER and light amber honey in 60's. The Hubbard Apiaries, Onsted, Mich.

ORANGE, palmetto, or amber honey in new sixties. Peter W. Sowinski, Fort Pierce, Fla.

CHOICE MICHIGAN clover honey in new 60's. Arthur Thayer & Sons, Freeland, Mich.

BUCKWHEAT HONEY extracted, 6½c. Hoffman Honey Farm, R. D. 2, Scotia, N. Y.

EXTRACTED—Crystallized in 60's, 6½c lb. H. Blitz, P. O. Box 3452, Philadelphia, Pa.

FOR SALE—Extracted clover honey in sixties, 8c; amber, 7c. H. G. Quirin, Bellevue, Ohio.

FOR SALE—Clover honey in 60-lb. cans, 8c f.o.b.; fall honey, 7c. Geo. M. Sowarby, Cato, N. Y.

NEW CROP clover honey in new 60's. Excellent flavor for table use. Ray Hiltner, North Creek, Ohio.

FANCY white clover honey in new 60's. Send for sample and price. A. A. French & Son, Theresa, N. Y.

RASPBERRY HONEY—Put up in 60-lb. cans for 10c a lb., 10-lb. cans by mail, prepaid up to and including third zone for $2.00 a can. Sample by mail for 20c. Elmer Hutchinson & Son, Lake City, Mich.

NEW YORK State comb and extracted honey, buckwheat and clover, any quantity, all size packages. Five-pound pails my specialty. Edward T. Cary, Midland Ave. and Tallman St., Syracuse, N. Y.

STOLLER'S Excellent quality extracted clover honey, packed in 60's. Finest obtainable, 8c lb., guaranteed as represented. The Stoller Apiaries, Latty, Ohio.

TONS of fine amber extracted honey in new cans and cases. Sample for asking. W. S. Earls, New Canton, Ills.

BUCKWHEAT famous Hilderberg Mountain quality, two new 60's, per case, 7c. H. Greulick and Son, Scotia, N. Y.

FOR SALE—Blended clover extracted honey, fine flavor, 8c, in case lots. N. B. Querin, R. No. 4, Bellevue, Ohio.

HONEY FOR SALE—All kinds, any quantity. H. & S. Honey & Wax Co., Inc., 265-267 Greenwich St., New York, N. Y.

FOR SALE—Buckwheat extracted in new 60-lb. cans; also buckwheat comb at market price. Carlton D. Howard, Ovid, N. Y.

BUCKWHEAT HONEY—Fine quality, kegs or cases; any amount to carload. Price on request. E. L. Lane, Trumansburg, N. Y.

FOR SALE—CHOICE clover and amber extracted honey. Write for prices and sample. Jonkman & Oosting, Evergreen Park, Ill.

HARRIS—Michigan clover extracted, new sixties, case or carlod. Limited amount light amber. J. N. Harris, Saint Louis, Michigan.

HOWDY'S HONEY. White, clover extracted and small lot, amber, mixed fall flowers, including buckwheat. Howard Potter, Ithaca, Mich.

NO. 1 LIGHT AMBER COMB, per case, $3.75; No. 2, $3.00; amber extracted in 60's (not buckwheat), 7½c. F. J. Smith, Castalia, Ohio.

NEW YORK STATE'S finest extracted honey, clover, clover-basswood blend and buckwheat. Walter Severson, Box No. 825, Albany, N. Y.

CLOVER AND LIGHT amber honey in new 60's, buckwheat in cans and kegs, also goldenrod and aster in cans. Earl Rulison, Route 1, Amsterdam, N. Y.

CLOVER HONEY FROM CLOVERDALE, Ohio's finest clover extracted in 60's. Sample, 10c. Prices upon request. The Cloverdale Apiaries, Cloverdale, Ohio.

COMB HONEY, fancy amber, $3.50; No. 1, $3.25; fancy buckwheat, $3.25; No. 1, $2.75. No single cases shipped. Buckwheat extracted, 7c. C. B. Howard, Geneva, N. Y.

1,500 pounds of good catsclaw honey, 6c in 60 lbs. F.O.B.; 1,500 pounds of secondary grade, 4c F.O.B. Will send samples on request. Milam Lambright, Marathon, Texas.

HONEY PACKERS—Write us for prices on carload lots of California and western honeys. We stock all varieties. Hamilton & Company, 108 West Sixth St., Los Angeles, Calif.

FOR SALE—Well ripened white sweet clover honey. Don't let your customers be without honey. The stock we furnish will please them. Write today for prices. Colorado Honey Producers' Association, Denver, Col.

XUM

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTE—We will not guarantee any honey buyers' financial responsibility and advise all beekeepers to sell for cash only, or on C. O. D. terms except when the buyer has thoroughly established his credit with the seller.

SOME straight fireweed (willow herb) honey. Albert Hann, Glen Gardner, N. J.

WHITE CLOVER honey, extracted. Page & Cox, 2285 Indiandale Ave., Detroit, Michigan.

CLOVER honey, extracted, case, truck or carlots. Send sample and price. F. M. Babcock, Fredonia, N. Y.

Wanted—100 cases comb, also white, amber, and capping-melter honey. C. Jankowski, Russell, Illinois.

WANTED—Comb and extracted honey, sample and price. Wm. March, 12801 Woodland Ave., Cleveland, Ohio.

WANTED—White clover and amber extracted honey. Mail samples and price. Jonkman & Oosting, Evergreen Park, Ills.

WANTED—White clover and light amber extracted honey, white comb, carlots or less. Roscoe F. Wixson, Dundee, New York.

WANTED—White and light amber extracted honey in carlots or less. Clover Blossom Honey Co., 712 Kossuth St., Columbus, Ohio.

WANTED—Comb, chunk comb, white and light amber extracted honeys. Any amount. Central Ohio Apiaries, Millersport, Ohio.

WANTED—Carlots of honey, state quantity, shipping point and price. Mail sample. Bryant & Cookinham, Inc., Los Angeles, Calif.

WANTED—White and Amber Extracted Honey, any quantity, also Beeswax. Write The Fred W. Muth Co., Pearl & Walnut Sts., Cincinnati, Ohio.

WANTED—Car lots or less of Extracted Honey; also comb. Send sample and price delivered to Walter Geiger, 325 West Vine Street, Milwaukee, Wisconsin.

WANTED—Chunk comb and extracted honey in truck or car lots. Send sample and price delivered to Clover Bloom Honey Co., 1022 North Ollie St., Oklahoma City, Okla.

FOR SALE

WE CARRY a full line of beekeepers' supplies. Honey taken in exchange. Prairie View Apiaries, 12213 12th St., Detroit, Michigan.

COMPLETE queen painting outfit, $2.00 postpaid. Southwick Apiaries, 176 Waban Avenue, Waban, Massachusetts.

QUALITY bee supplies at money-saving prices. Prompt shipment. We take honey and beeswax in trade. The Hubbard Apiaries, Onsted, Michigan.

ATTRACTIVE prices on bee supplies and comb-foundation. Send for catalog. Saves you money. The Fred W. Muth Co., Pearl & Walnut Sts., Cincinnati, Ohio.

FOR SALE—Fine quality queen mailing cages; Root quality bee supplies; both comb and extracted honey. Orders filled promptly. Write us or drive over M53, fifty miles north of Detroit, Hamilton Bee Supply Co., Almont, Michigan.

YOUR WAX worked into medium brood for $11.00 per 100 lbs. Complete line of bee supplies manufactured by us at special low factory prices. Write for free catalog and samples of foundation, shipping tags, etc. Walter T. Kelley Co., Paducah, Kentucky.

YOUR WAX worked into deep cell natural base medium brood foundation for 15c lb.; 100 lbs., $11.00; thin super, 22c. Fred Peterson, Alden, Iowa.

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog upon request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Association, Denver, Colo.

BEES AND QUEENS FOR SALE

ITALIAN QUEENS, W. G. Lauver, Middletown, Pa.

WRITE US about our package bees and queens for 1938. Citronelle Bee Co., Citronelle, Ala.

SILVER RUN QUEENS are sterling. Try them. Silver Run Apiaries, Rt. 1, Phenix City, Alabama.

LAST CHANCE to requeen. Queens while they last 75c each. J. M. Cutts & Sons, Rt. 1, Montgomery, Ala.

CAUCASIAN QUEENS. 75c. Gentle, prolific, honey-getters. Miller's Caucasian Apiaries, Three Rivers, Texas.

MACK'S QUEENS—They speak for themselves. Booking orders for 1938 delivery. Herman McConnell, Robinson, Ill.

QUEENS and Package Bees, Market agreement prices. Cypress supplies. Let us quote you on your needs. Overbey Apiaries, Bunkie, La.

QUEENS MAILED ANYWHERE, any time, pure three-band Italians, at market price. Write for circular. D. W. Howell, Shellman, Georgia.

CAUCASIAN package bees. Booking orders now for 1938 delivery at new market agreement prices. P. B. Skinner Bee Co., Greenville, Ala.

IF YOU are interested in some good packages or queens for next season, Caucasians or Italians, write Weaver Apiaries, Navasota, Texas.

FOR SALE—Pure Italian queens and bees, bright yellow and three-band. You send for them, they go. Graydon Brothers, Rt. 2, Greenville, Ala.

CAUCASIAN queens, 75 cents each. Discount to dealers. Prompt delivery, safe arrival, satisfaction. Lewis & Tillery Bee Co., Rt. 4, Greenville, Ala.

BOOK YOUR 1938 Bee and Queen orders with us, get quality goods backed by 27 years experience. No deposit required. Merrill Bee Company, Bucatunna, Miss.

GOLDEN Queens, Excellent quality that produce hardy, gentle workers. Personally reared. Untested, 75c; tested, $1.50. Health certificate. Safe arrival and satisfaction guaranteed. O. E. Brown, Route 1, Asheboro, N. C.

ITALIAN QUEENS from selected stock. Experiment Station Stock, 75c each; Spicer Stock $1.00 each, any number. See ad. May and June Gleanings. E. G. Carr, Pennington, N. J.

ITALIAN QUEENS—Now uniting nuclei and disposing of extra queens at 75c each. Some are young tested queens, all mated and laying. A good buy. White Pine Bee Farms, Rockton, Pa.

CAUCASIAN QUEENS and package bees. Booking orders now for delivery in 1938. 12 years a breeder of Caucasians only. Best quality stock and service guaranteed. Bolling Bee Co., Bolling, Ala.

XUM

SOLD OUT!

All Available 1937 Queens Have Been Sold. Now booking orders for 1938.

Package Bees and Queens

And to our many customers who have made possible another good season, we wish to say "**THANK YOU**" and it is our hope to merit your continued patronage. With the occupancy of our new buildings, and our bees in the best condition in years, we will be prepared to serve you satisfactorily.

Jensen's Apiaries, Macon, Miss.
Box 305

Package Bees and Queens for 1938

Our policy is for ever improved service. This means quality, quantity and promptness in delivery. We have been preparing since last June to make 1938 a banner year for our customers as well as ourselves. Write us.

GARON BEE COMPANY
Donaldsonville, La.

Italian Carniolan Caucasian QUEENS

Reared in separate apiaries. Breeding Carniolans from Imported Stock.

Marketing Agreement Price

RONALD KIRK, Rockton, Pa.

BIG ADS, BIG CLAIMS

don't get honey. Our bees do. Marketing Agreement Prices.

SULLIVAN'S APIARIES
Gilbertown, Ala.

GENUINE three-banded Italian bees and queens of fine quality, for 1938. Alamance Bee Company, Geo. Elmo Curtis, Mgr., Graham, N. C.

THREE-BANDED Italian queens. Booking orders for 1938 delivery. Satisfaction guaranteed. Lamar Bee Co., Box 1503, Baton Rouge, La.

MISCELLANEOUS

WANTED—Exchange printing for honey. Snapp Printing Co., Greeneville, Tenn.

A STRAW BEEHIVE displayed with your honey will increase sales. Photos free. G. Korn, Berrien Springs, Mich.

FOR SALE OR RENT—85 colonies bees, guaranteed no disease. Small farm, 16 pair silver foxes. Lewis Francisco, Dancy, Wis.

FLORIDA property for rent, 132.5x100, high, dry, and nicely located near Palatka. $15.00 for the season. Wm. Falk, Milltown, N. J.

FOR RENT—60 clean colonies with young bearing orchard. On shares. Geauga County, John Klements, 17913 Grovewood, Cleveland, Ohio.

THE BEE WORLD—The leading bee journal in Great Britain, and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, 10/6. The Apis Club, L. Illingworth. The Way's End, Foxton, Royston, Herts, England.

HELP WANTED

WILL NEED a good queen breeder from January 1 to June 30, 1938. Most important to be strictly sober. Write, if interested, stating full qualifications. Lucedale Apiaries, Lucedale, Mississippi.

WANTED—Experienced beekeeper to help operate 700 colonies for extracted honey in Ohio. Single man. Board and room. Steady employment. Write Box 30, Gleanings in Bee Culture, Medina, Ohio.

POULTRY

BIG MONEY in poultry this year. Read Poultry Tribune, the big monthly magazine that tells how leading poultry raisers make money. The only poultry magazine operating its own experimental farm. Five years $1.00, one year trial 25c. Poultry Tribune Dept. C-52, Mount Morris, Ill.

CARNIOLANS CAUCASIANS

The queen and package business is over for this year. We thank our many customers for their patronage. We are planning to take care of a greater volume of business for season of 1938.

ALBERT G. HANN, Glen Gardner, N. J.

Caucasian Apiaries

Brooklyn, Alabama

Importers and breeders of highest quality Caucasian bees and queens. Write for free circular.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF MARCH 3, 1933, OF GLEANINGS IN BEE CULTURE, PUBLISHED MONTHLY AT MEDINA, OHIO, FOR OCTOBER 1, 1937.

State of Ohio, County of Medina, ss.:

Before me, a Notary Public in and for the state and county aforesaid, personally appeared M. J. Deyell, who, having been duly sworn according to law, deposes and says that he is the Editor of Gleanings in Bee Culture, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of— Post office address—

Publisher, The A. I. Root Co., Medina, Ohio.

Editors, E. R. Root and M. J. Deyell, Medina, Ohio.

Business Manager, M. J. Deyell, Medina, O.

2. That the owner is: (if owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

The A. I. Root Co., Medina, Ohio; Belva M. Demuth, Medina, Ohio; John Gunkleman, R. F. D. No. 4, Medina, Ohio; J. T. Calvert, Medina, Ohio; Maude R. Calvert Estate, Medina, Ohio; H. H. Root, Trustee A. I. Root Estate, Medina, Ohio; E. R. Root, Medina, Ohio; John A. Weber, Medina, Ohio; H. H. Root, Medina, Ohio; R. I. Bostwick, Seville, Ohio; Alan I. Root, Medina, Ohio; Trustees Profit Sharing Fund, Medina, Ohio.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities are : (If there are none, so state). None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or dstributed through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is (This information is required from daily publications only.)

M. J. DEYELL, Editor.

Sworn to and subscribed before me this 28th day of September, 1937.

HAROLD C. WEST, Notary Public.

(My commission expires Mar. 27, 1940.)

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Beekeepers in many lands have been pleased with this most important tool in Beekeeping. Your Bingham Smoker is offered for sale by numerous dealers.

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Manufacturers of a complete line of Honey Extractors, one for every requirement. Send for printed matter.

A. G. WOODMAN COMPANY

GRAND RAPIDS, MICH.

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HONEY FOR SALE

PACKED OR BULK

A CAN OR A CARLOAD

THE DIAMOND MATCH CO.

Chico, California

EDWARDS METAL ROOFS

Look better, last longer, cost less. Protection from fire, lightning, wind and weather. Send roof measurements today for money-saving price, freight paid. Ask for Catalog 89.

THE EDWARDS MANUFACTURING CO.

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NEW SUPER-QUALITY KITSELMAN FENCE

Heavier, thicker, tougher galvanizing. Finer, longer-lasting Copper-Bearing Steel. Low Factory-to-You Prices. WE PAY FREIGHT. 160 styles and heights Farm, Poultry and Lawn Fence; Steel Posts, Gates, Barb Wire, Paints, Roofing. Write today.

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Australian Beekeeping News

The Leading Bee Journal of the Southern Hemisphere is the

"Australasian Beekeeper"

Subscription 5 shillings per year. Start any time. Inquire for International Money Order for five shillings (Australian) at your Post Office.

Write now to The Editor, P. O. Box 20, West Maitland, New South Wales, Australia.

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64 Pages Each Month

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One year $1.00, 2 years $1.50
(Foreign, 1 year $1.25; 2 years $2.00
Mail to The A. I. Root Co., Medina, Ohio

THREE OLD FAVORITES

(Continued from page 669)

Upon occasion we have neglected to wrap the pieces in waxed paper and have found it sadly flat and spread out the next morning, apparently "ruined." We found it could be pulled again and wrapped with no bad results. Unless you are particularly partial to this form of exercise we advise wrapping after the first pulling.

Taffy made from either of these recipes is a superior product. However, the flavor of the second is especially fine and the candy is a bit less expensive and easier to make.

You need not fear a trip to the dentist either, for this honey taffy is not that kind of candy. It is soft and chewy and a sure "repeater.'

Aurora, Neb.

• • •

LETTER TO INSTITUTE MEMBERS

(Continued from page 660)

ducted from our remittance to you and we will contribute a like amount to be sent to the Institute Treasurer unless there is an objection on your part.

Approved: American Honey Institute,
Madison, Wisconsin."

If there is no objection on the part of the beekeeper, the sums indicated will be deducted and a receipt sent to the beekeepers by the buyer. This receipt will read as found on page 710, and at the end of each month buyers will remit to the Institute amounts collected during the period.

It is up to the Institute and interested members to sell this idea to the Beekeeping Fraternity, and we hope you will give your full cooperation. If you have any comments to make I would be glad to receive them.

Approved by Board of Directors.
H. F. Wilson
Very truly yours
Willah Goodman
Financial Sec'y-Treas.

[It seems to us that 1/40c per pound for advertising honey is a very small amount. Surely beekeepers should be willing to pay this amount. If it were possible to collect this small amount from all honey producers even this would help materially in advertising honey. It would seem that 5c per case instead of 3c would not be out of line. Unless beekeepers cooperate in helping to popularize honey our industry is likely to lag.—Editor.]

THIRTY YEARS OF CELLAR WINTERING

(Continued from page 667)

A room 16x20x7 feet high is about right for 75 to 100 colonies, allowing about 25 or 30 cubic feet for each colony. It would be inadvisable to try to winter bees in a cellar too large or too small or in an ordinary house cellar where the walls extend up above the ground surface. I would imagine that a cellar constructed to hold 200 or 500 colonies should provide space two or five times that mentioned above or about 25 to 30 cubic feet per colony.

Valparaiso, Indiana.

• • •

SPINSTER JANE SAYS—

(Continued from page 696)

must be always something of a gamble, but aren't we all born gamblers? Who is a greater one than the farmer? As he sows his seed, what assurance has he that he will have a good crop? He, too, gambles on the weather. Who takes a bigger chance than do those who marry? Oh, yes, they do. Don't shake your head. Too often "too great familiarity breeds contempt".

But, you cannot say this of bees and keeping them. Even when we fail to make a "go" of it, one season, we are just as eager to try it again the next. One thing sure, the right kind of beekeeper never gives up as "licked".—Spinster Jane.

COMB AND EXTRACTED
Honey Wanted!
Send sample of extracted and advise quantity
Describe comb honey—grade, size section and how packed
FRANK H. HAUCK
P. O. Box 84
KEW GARDENS,
Long Island, N. Y.

Three-Banded Italian Queens
Shasta Apiaries
Geo. W. Moore F. W. Chapman
Post Office: Shasta, Shasta Co., CALIFORNIA.
Express Office, REDDING, CALIF.

A Good Rule to Go By
Buy your Italian bees
and queens from
ALABAMA APIARIES
MT. PLEASANT, ALA.
Marketing Agreement Prices

PACKAGE BEES
For 1938
Stock recently imported from Italy.
Trade Agreement Prices.
The Crowville Apiaries
Winnsboro, La., Rt. 1.

GOVERNMENT HONEY MARKET

(Continued from page 653)

fall flow, and little surplus fall honey was secured. Feeding will often be necessary and numerous beekeepers in the colder States have decided to kill off their bees rather than buy sugar to feed them for winter. Already orders for package bees for 1938 have been going to Southern package beemen. Prospects for next season are encouraging so far as honey plants are concerned, except where white clover and sweet clover burned out as happened in Kansas. Beekeepers are, however, rather apprehensive about how colonies will come through the winter, fearing that losses may often be excessive. This year's crop of honey is below normal in both color and body, and exceptionally light almost everywhere except in California. The market is strengthening in the central and eastern parts of the country, and is slightly firmer in the West, where the fairly large crop in Central and Southern California for a time obscured the fact that the crop elsewhere was short. Some large buyers in the central part of the country have increased their offers for large lots of White honey by 1-1½c per pound over offers of six weeks ago. In some areas beekeepers are already buying from other States to take care of their demand for the coming season. Comb honey has advanced and is scarce everywhere. Beeswax also shows signs of advancing in price.

TOO LATE TO CLASSIFY

WANTED—Bees to work. Good location. Gladys Warner, General delivery, Chardon, Ohio.

BETTER-BRED QUEENS---Three-Banded Italians
Booking orders for packages for 1938. Let us quote you our prices on queen cages, any size you wish. We can save you money.
Trade Agreement Prices
CALVERT APIARIES CALVERT, ALABAMA

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American Honey Institute

Promoting

National Publicity for Honey

Knowing the necessity for a fight to secure a fair share of the consumer's dollar for Honey in the highly competitive sale of food stuffs and believing that the American Honey Institute is doing a wonderful work in promoting the use of and sale of Honey and that all individuals and firms securing an income from Honey directly or indirectly should do their fair share, you are asked to contribute to the Institute support.

Producers have been asked to contribute 3c on each case of 120 pounds of extracted honey and 1c per case on comb honey. This amount has been deducted from our remittance to you and we will send that amount to the Treasurer of the Institute for honey publicity.

Approved:

American Honey Institute

Madison, Wisconsin

.....Cases Extracted Honey @ 3c per case.....

.....Cases Comb Honey @ 1c per case.....

HONEY PRODUCER	HONEY BUYER
Name	Name .....
City ..... State	City ..... State .....

..... Paid.....

....

The above is the member's receipt for the new 3c per case plan. Write for details.

This space donated to American Honey Institute by Gleanings in Bee Culture.

IMPROVED TOP ENTRANCES

(Continued from page 662)

covers with the entrance feature included. For those who prefer not to use the entrance a wad of burlap will plug the hole nicely.

Maybe it's imagination on my part, but I've thought time and again as I've looked between the covers after closing the bottom entrances that the bees were fairly dancing in joy around the inner cover hole in realization that cold air currents from below were shut out and they stood in complete control of their own heating and ventilation system. Modern air conditioning was theirs at the whirr of a wing.

Some may question the advisability of the ten-colony pack because of the drifting that might result when unpacking in the spring. Personally I've had little trouble from drifting as the scenery of the yard is so radically changed after removing the straw and shifting the colonies to separate stands, and at the same time releasing them through the bottom entrance, that the bees seem to re-locate their particular hives. It is best that the top entrance be plugged while all the bees are inside before unpacking. Then by selecting a cool, rainy day virtually all drifting is averted.

Junius, So. Dak.

WHEN WRITING TO ADVERTISERS, MENTION GLEANINGS.

PATENTS—Williamson & Walton
Attorney for The A. I. Root Co.
Munsey Bldg. Washington, D. C.

Package Bees and Queens for 1938

Quality bred Italians, larger quantities, better quality and service. Write us for prices and book orders now for spring delivery.

York Bee Co., Jesup, Georgia
(The Home of Quality Products)

Queens! Queens!

Marketing Agreement Prices

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"Where Satisfaction is a Certainty"

HAHIRA, GEORGIA

Package Bees and Queens

By Pound, Ton or Car
Service—Satisfaction

Trade Agreement Prices. Write for particulars.

Victor Apiaries, Uvalde, Tex.

2 Years $1.50

American Bee Journal—monthly; published and edited by beekeepers for beekeepers. Full of pictures and tips on care of bees and selling of honey. **SAMPLE COPY FREE.**

$1.00 a year, 2 years $1.50 in U. S. A. and Canada.

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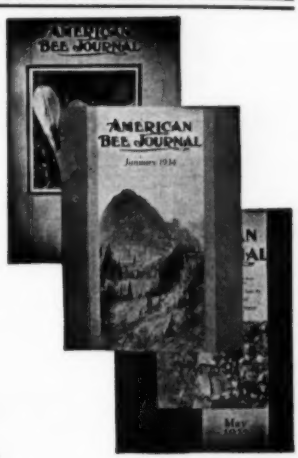

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HONEY CONTAINERS

from Syracuse—where orders are shipped promptly.

5-LB. PAILS—50 in carton
$ 3.45 for 50 $ 6.80 for 100
32.00 for 500 62.00 for 1000

10-LB. PAILS—50 in carton
$5.00 for 50 $46.50 for 500

2½-LB. CANS—100 in carton
$4.30 for 100 $20.75 for 500

10% DISCOUNT ON ALL JARS—in lots of five or more gross, one or assorted sizes, from our list price.

Send for our complete list on all honey containers.

Send your old combs and cappings to us to be rendered into wax. Our new steam presses get all the wax there is, and we pay the highest market price. Send for our complete terms.

A. I. Root Co. of Syracuse
Midland Ave. and Tallman St.
SYRACUSE, N. Y.
SERVES YOU BEST

Package Bees Queens

Let us quote you on package bees and queens for your 1938 needs.

We have both imported and domestic stock.

Many large honey producers are demanding imported stock exclusively.

Our cell builders are fed only on honey, the natural food of the bees.

Satisfaction Guaranteed

Rossman & Long
Moultrie, Georgia

Root QUALITY BEE SUPPLIES

AT INDIANAPOLIS----Get Our Prices

We have a fine stock of bee supplies and give prompt service to all parts of the state.

LET US QUOTE ON SEASON'S NEEDS

A. I. ROOT CO. OF INDIANAPOLIS 121 N. Alabama, Indianapolis

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